



RFQ No. DACW67-02-Q-0042

**US Army Corps  
of Engineers®**  
Seattle District

AMENDMENT 0004

---

**Project: Construct Small Lock Guard Gate Appurtenances**

**Location: Hiram M. Chittenden Locks, Lake Washington Ship Canal,  
Seattle, WA**

**SUPPLY SOLICITATION  
AND SPECIFICATIONS**

**Closing Date: 1 May 2002**  
**Closing Time: 1:00pm LOCAL TIME**

**REMARKS: Quotes may be faxed to (206) 764-6817, Attention: Susan Newby, or mailed to US Army, Corps of Engineers, Seattle District, Attention: Susan Newby, P.O. Box 3755, Seattle, WA 98124-3755.**



<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE <div style="text-align: center;">J</div>		PAGE OF PAGES <div style="text-align: center;">1   41</div>	
2. AMENDMENT/MODIFICATION NO. 0004		3. EFFECTIVE DATE 17-Apr-2002		4. REQUISITION/PURCHASE REQ. NO. W68MD9-2029-1543		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT P.O. BOX 3755 SEATTLE WA 98124-3755		CODE DACW67		7. ADMINISTERED BY (If other than item 6) <div style="text-align: center;"><b>See Item 6</b></div>		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X		9A. AMENDMENT OF SOLICITATION NO. DACW67-02-Q-0042	
				X		9B. DATED (SEE ITEM 11) 14-Feb-2002	
						10A. MOD. OF CONTRACT/ORDER NO.	
						10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended.  Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>  1  </u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.							
A.THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.							
B.THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).							
C.THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:							
D.OTHER (Specify type of modification and authority)							
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) SEE ATTACHED CONTINUATION SHEET  POC: SUSAN NEWBY (206) 764-6780							
<small>Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.</small>							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
15B. CONTRACTOR/OFFEROR  _____ (Signature of person authorized to sign)		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA  BY _____ (Signature of Contracting Officer)		16C. DATE SIGNED  23-Apr-2002	

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

- a. The purpose of this amendment is to revise the Bid Schedule, to replace Specifications 01001, 01330, 05055 and 05502 with revised Specifications, to add the Scope of Work, to add new and revised Drawings, to incorporate additional clauses, and to extend the required response date/time to 1 May 2002.
  - b. The Bid Schedule (see attached) is revised and is hereby incorporated herein.
  - c. Specifications 01001, 01330, 05055 and 05502 (see attached) are being replaced, and are hereby incorporated herein.
  - d. The new Scope of Work (see attached) is hereby incorporated herein.
  - e. The Drawings have increased in quantity to twenty-on drawings and are hereby incorporated herein.
  - f. The following clause is added and incorporated by full text as follows:  
  
FAR 52.211-11      FAR 52.211-16      FAR 52.211-17
  - g. The following clauses are replaced and incorporated by full text as follows:  
  
FAR 52.212-3 ALT I      FAR 52.212-5      DFAR 252.212-7001
  - h. The required response date/time has changed from 25-Apr-2002 1:00PM to 01-May-2002 1:00PM Local Time.
  - i. There are no other changes as a result of this amendment.
- NAICS Coding versus SIC Coding**

The computer program used to generate this document does not allow completion of Block 10, Standard Form (SF) 1449, with a NAICS code. The SIC Code, 3325, under Block 10, shall be read as if completed with the NAICS code 331513. The size standard is 500 Employees.

\*\*\*\*\*  
**\*\*NOTE\*\***  
**QUOTES ARE DUE INTO THIS OFFICE**  
**NO LATER THAN**  
**MAY 1, 2002**  
**AT**  
**1:00PM LOCAL TIME**

Proposed Delivery Date: \_\_\_\_\_

**INFORMATION FOR WRITTEN QUOTES:**

Please note the following changes, clarifications, or additions to the terms in various provisions and clauses included in this solicitation.

Whenever the words "offer", "proposal", "offerors", or similar terms are used in this solicitation, they shall be read to mean "quote", "quotation", "quoter", or similar corresponding term to reflect that this solicitation is a Request for Quotations (RFQ), not a Request for Proposals (RFP).

Since this solicitation is a RFQ instead of an RFP, paragraphs (g) and (h) of FAR 52.212-1 are deleted.

**AWARD WILL BE MADE TO THE LOW, RESPONSIVE AND RESPONSIBLE OFFER.** Responses via Non-Facnet and Facnet will be accepted through the Seattle District office.

**Please submit your completed Quotation, along with any Specifications of what you would be providing, no later than the date/time stated above, to the address shown in Block 9, of the Standard Form (SF) 1449, Quotation/Contract/Order for Commercial Items. Facsimile quotes may be sent to the Seattle District, Corps of Engineers, Attention: Susan Newby at (206) 764-6817.**



Items will be delivered to the following address 6-8 weeks after pickup of pattern boxes, which is within the 10 calendar days after award:

Lake Washington Ship Canal  
3015 Northwest 54<sup>th</sup> Street  
Seattle, WA 98107-4299

**PROSPECTIVE OFFERORS:** THE DIRECTOR OF DEFENSE PROCUREMENT HAS ISSUED A FINAL RULE AMENDING THE DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT (DFARS) THAT REQUIRES CONTRACTORS TO BE REGISTERED IN THE DOD CENTRAL CONTRAL CONTRACTOR REGISTRATION (CCR) FOR AWARDS RESULTING FROM SOLICITATION ISSUED AFTER MAY 31, 1998. THIS RULE EFFICIENTLY IMPLEMENTS THE DEBT COLLECTION IMPROVEMENT ACT OF 1996 AS IT REQUIRES CONTRACTORS TO BE REGISTERED IN CCR FOR CONSIDERATION OF FUTURE SOLICITATIONS, AWARDS AND PAYMENT. REGISTRATION IS REQUIRED PRIOR TO AWARD OF ANY CONTRACT, BASIC AGREEMENT, BASIC ORDERING AGREEMENT OR BLANKET PURCHASE AGREEMENT FROM A SOLICITATION ISSUED AFTER MAY 31, 1998. NO CONTRACT AWARD WILL BE MADE TO AN UNREGISTERED CONTRACTOR. INTERNET ACCESS ALLOWS YOU TO REGISTER BY COMPLETING AN ELECTRONIC ON-LINE REGISTRATION APPLICATION FROM CCR HOMEPAGE AT <http://www.ccr2000.com/>. FOR FURTHER ASSISTANCE IN COMPLETING YOUR ON-LINE REGISTRATION, CONTACT THE NEAREST PROCUREMENT TECHNICAL ASSISTANCE CENTER (PTAC) NEAR YOU. A LIST OF THE NEAREST PTAC IS LOCATED AT: <http://www.rcacwv.com/ptac.htm>.

CONTRACTOR MUST PROVIDE DUN AND BRADSTREET NUMBER: \_\_\_\_\_

If contractor does not have DUNS number, contractor may register in CCR to retrieve a number (see internet address above, or you may call 888-333-0505).

Questions/Concerns Should Be Addressed To The Following:

Seattle District, Corps of Engineers

Post Office Box 3755

Seattle, WA 98124-2255

Point of Contact: SUSAN NEWBY, Contract Specialist

CONTRACTING WEB ADDRESS: <http://www.nws.usace.army.mil/index.cfm>

(Click on Contract and Bid Information)

E-MAIL: [Susan.F.Newby@nws02.usace.army.mil](mailto:Susan.F.Newby@nws02.usace.army.mil)

TEL: (206) 764-6780

FAX: (206) 764-6817

## SECTION SF 1449 CONTINUATION SHEET

## CLAUSES INCORPORATED BY REFERENCE:

52.211-11 Liquidated Damages--Supplies, Services, or Research and Development SEP 2000

## CLAUSES INCORPORATED BY FULL TEXT

## SECTION SF 1449 CONTINUATION SHEET

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	SMALL LOCK GUARD GATE CASTINGS FFP - ASTM A148, consisting of 4 pieces of pintle shoe for approximate total weight of 1,550 pounds (lbs). See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543	1.00	Load		
				NET AMT	
ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002	SMALL LOCK GUARD GATE CASTINGS FFP - ASTM A27, consisting of 58 pieces of pintle casting, seal casting, reaction bearing, quoin post reaction casting and miter post reaction casting for total approximate weight of 46,800 lbs. See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543				
				NET AMT	
ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003	SMALL LOCK GUARD GATE CASTINGS FFP - Phosphor Bronze, consisting of 32 pieces of anchorage eyebar bushings, gudgeon eyebar bushings and clevis bushings for total approximate weight of 60 lbs. See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543				
				NET AMT	
ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004	SMALL LOCK GUARD GATE CASTINGS FFP - Forgings are ASTM A668, consisting of 40 pieces of pintle, gudgeon eyebar, anchorage eyebar, gudgeon pin, anchorage pin and clevis for total approximate weight of 1000 lbs. See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543				
				NET AMT	

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005	SMALL LOCK GUARD GATE CASTINGS FFP - Mild steel is ASTM A36, consisting of 12 pieces of pintle key (plate) and sleeve nut (rod) for total approximate weight of 90 lbs. See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543				
				NET AMT	
ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006	SMALL LOCK GUARD GATE CASTINGS FFP - Alloy steel is ASTM A29, consisting of 10 pieces of miter bearing bars for total approximate weight of 3400 lbs. See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543				
				NET AMT	
ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007	SMALL LOCK GUARD GATE CASTINGS FFP - Vanadium steel consists of 4 pieces pintle shoe bushing at total approximate weight of 100 lbs. See Scope of Work and Drawings. PURCHASE REQUEST NUMBER W68MD9-2029-1543				
				NET AMT	

Construct Small Lock Guard Gate Appurtenances  
Hiram M. Chittenden Locks  
Lake Washington Ship Canal, Seattle, WA

#### Scope of Work:

Puget Sound Naval Shipyard [PSNS] is currently constructing one new set of upstream leaves and one new set of downstream leaves for the Small Lock Guard Gates at the Hiram M. Chittenden Locks [HMCL] Project, Lake Washington Ship Canal, Seattle, WA. One set equals two leaves.

Scope of work for this project is to construct two complete sets of appurtenant parts, one for the upstream set of gate leaves and another for the downstream set of gate leaves. Parts consist of castings, forgings, mild steel, alloy steel, vanadium steel, manganese bronze and phosphor bronze.

Castings by material type include:

- ASTM A148, consisting of 4 pieces of pintle shoe for approximate total weight of 1,550 pounds [lbs],
- ASTM A27, consisting of 58 pieces of pintle casting, seal casting, reaction bearing, quoin post reaction casting and miter post reaction casting for total approximate weight of 46,800 lbs, and
- Phosphor Bronze, consisting of 32 pieces of anchorage eyebar bushings, gudgeon eyebar bushings and clevis bushings for total approximate weight of 60 lbs.,
- Forgings are ASTM A668, consisting of 40 pieces of pintle, gudgeon eyebar, anchorage eyebar, gudgeon pin, anchorage pin and clevis for total approximate weight of 1000 lbs.
- Mild steel is ASTM A36, consisting of 12 pieces of pintle key [plate] and sleeve nut [rod] for total approximate weight of 90 lbs.
- Alloy steel is ASTM A29, consisting of 10 pieces of miter bearing bars for total approximate

weight of 3400 lbs.

g. Vanadium steel consists of 4 pieces pintle shoe bushing at total approximate weight of 100 lbs.

h. Manganese bronze consists of 4 pieces gudgeon pin key at total approximate weight of 2.0 lbs.

Original pattern boxes for castings are available from the HMCL Project, located in Ballard, Washington. Pattern boxes for pintle shoe will require modification to accommodate a new bottom horizontal gate leaf member. Bolt hole locations will have bosses spot-faced only. PSNS will match drill and attach all appurtenant parts to the new gate leaves.

## SECTION 01001

### SUPPLEMENTARY REQUIREMENTS

#### 1. CONDUCT OF WORK

##### 1.1 COORDINATION AND WORK HOURS

1.1.1 Coordination with using agencies shall be made through the Contracting Officer to assist the Contractor in completing the work with a minimum of interference and inconvenience.

1.1.2 Work hours at the Lake Washington Ship Canal (LWCS) will be restricted to 7:00 a.m. to 3:30 p.m. daily, Monday through Thursday, excluding holidays. The Contractor shall not access the LWSC before 7:00 a.m. and shall be off site before or by 3:30 p.m. Requests for alternate work schedules may be considered, but will be approved only by the Contracting Officer. Alternate work schedules will not be approved if a Government quality assurance inspector is not available to be on site full time during all hours outside those previously stated.

##### 1.2 ACCESS

###### 1.2.1 Contractor's Vehicles

Contractor's vehicles shall only park in approved areas in accordance with the parking plan provided by the Contracting Officer. The parking of privately-owned vehicles (POV's) of Contractor personnel is prohibited inside the second fence of the Hiram M. Chittenden Locks, Lake Washington Ship Canal.

##### 1.3 CONTRACTOR SECURITY

The Corps of Engineers will not be responsible for providing security for Contractor-owned/controlled equipment, supplies or materials. The Contractor shall provide those necessary security measures.

#### 2. PERSONNEL IDENTIFICATION

##### 2.1 EMPLOYEE LISTING

The Contractor shall submit a complete listing of Contractor personnel, including job title and identification credential number, who will be working on the project. This listing shall be updated as needed to insure that the Government has been notified of any changes of Contractor Personnel in advance of new personnel engaging in work on the project. The Government will allow access to the controlled areas of only the Contractor Personnel authorized in advance and included on the employee listing.

##### 2.2 Identification Credentials

Contractor personnel shall either be issued a photo identification card (ID) by the Contractor or agree to provide their individual vehicle driver's license as an appropriate identification credential. In either case, the identification number shall be included on the listing required above. If the Contractor determines to issue ID cards to its employees, the following information shall be included:

Contractor Identification and Card Number Indicating Employees:

- |                     |              |
|---------------------|--------------|
| o Full Name         | o Height     |
| o Current Address   | o Weight     |
| o Birth Date        | o Hair Color |
| o Recent Photograph | o Eye Color  |

### 2.3 Employee Termination

If a Contractor employee resigns or is terminated the Contracting Officer, or designated representative shall be so notified at the earliest opportunity, but in no case later than the start of the succeeding workday.

### 2.4 Access Control

Contractor personnel shall be instructed to present identification credential upon request by proper authority as established by the Contracting Officer.

## 3. PROTECTION OF PROPERTY

The Contractor shall protect all Government property. Protection shall include, but is not limited to protection from construction generated dust, debris, water, and vibration.

## 4. SAFETY REQUIREMENTS

Operations shall be in accordance with all requirements of Corps of Engineers Manual, EM 385-1-1, "Safety and Health Requirements Manual," dated September 1996.

## 5. HOUSEKEEPING AND CLEANUP

Contractor shall remove all debris from the work area daily.

## 6. GOVERNMENT FURNISHED PROPERTY

The Government will furnish seven (7) patterns (forms) to the Contractor, to be used for making the castings. When the property is delivered to the Contractor, the Contractor shall verify the quantity and condition and acknowledge receipt in writing to the Contracting Officer. The Contractor shall also report in writing to the Contracting Officer within 24 hours of delivery any damage to or shortage of the property as received. The Contractor shall repair or replace, at its own expense, any damage caused to the patterns while under its care. The Contractor shall return the patterns to the location as directed by the COR at the completion of their use. The point of contact at the Locks for the pickup, useage and return of the patterns is Bill Livermore, phone (206) 789-2622, X-240.

## 7. SUBMITTALS

Submittals shall be as specified in Section 01330 SUBMITTAL PROCEDURES.

## 8. WARRANTY OF CONSTRUCTION (APR 1984) (FAR 52.246-21)

8.1 In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph 5.9 of this Clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or design furnished, or workmanship performed by the Contractor or any subcontractor or supplier at any tier.

8.2 This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the Government takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the Government takes possession.

8.3 The Contractor shall remedy at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to Government-owned or controlled real or personal property, when that damage is the result of:

- a. the Contractor's failure to conform to contract requirements or
- b. any defect of equipment, material, workmanship, or design furnished.

8.4 The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for 1 year from the date of repair or replacement.

8.5 The Government will notify the Contractor, in writing or by telephone, after the discovery of any failure, defect or damage and the Contractor shall respond and be on-site to correct the problem within 1 working day after notification.

8.6 If the Contractor fails to remedy any failure, defect, or damage within a reasonable time as determined by the Government, after receipt of notice, the Government will have the right to replace, repair, or otherwise remedy the failure, defect, or damage at the Contractor's expense.

8.7 With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

- a. obtain all warranties that would be given in normal commercial practice;
- b. require all warranties to be executed in writing, for the benefit of the Government, if directed by the Contracting Officer; and
- c. enforce all warranties for the benefit of the Government, if directed by the Contracting Officer.

8.8 Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defects of material or design furnished by the Government nor for the repair of any damage that results from any defect in Government-furnished material or design.

8.9 This warranty shall not limit the Government's rights under the Inspection and Acceptance clause of this contract with respect to latent defects or fraud.

## 9. AS-BUILT FIELD DATA

### 9.1 General

The Contractor shall keep at the construction site a complete set of full size blue-line prints of the contract drawings, reproduced at Contractor expense. During construction, these prints shall be marked to show all deviations in actual construction from the contract drawings. The color red shall be used to indicate all additions and green to indicate all deletions. The drawings shall show the following information but not be limited thereto:

- a. The locations of any changes within the building or structure.
- b. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including, but not limited to, fabrication erection, installation, and placing details, etc.
- c. All changes or modifications from the original design and from the final inspection.

These deviations shall be shown in the same general detail utilized in the contract drawings. Marking of the prints shall be pursued continuously during construction to keep them up to date. In addition, the Contractor shall maintain full size marked-up drawings, survey notes, sketches, nameplate data, pricing information, description, and serial numbers of all installed equipment. This information shall be maintained in a current condition at all times until the completion of the work. The resulting field-marked prints and data shall be referred to and marked as "As-Built Field Data," and shall be used for no other purpose. They shall be made available for inspection by the COR whenever requested during construction and shall be jointly inspected for accuracy and completeness by the COR and a responsible representative of the Contractor prior to submission of each monthly pay estimate.

### 9.2 Submittal of the As-Built Field Data

The As-Built Field Data shall be submitted to the Contracting Officer for review and approval a minimum of 10 calendar days prior to the date of final inspection. If review of the preliminary as-built drawings reveals errors and/or omissions, the drawings will be returned to the Contractor for corrections. The Contractor shall make all corrections and return the drawings to the Contracting Officer within 5 calendar days of receipt.

## 10. CORRESPONDENCE

10.1 All correspondence shall be addressed to the Contracting Officer, shall be serially numbered commencing with Number 1, with no numbers missing or duplicated and shall be furnished with an original and one copy. Enclosures attached or transmitted with the correspondence shall also be furnished with an original and one copy. Each serial letter shall make reference to the contract name, contract number and shall have only one subject.

10.2 All correspondence from the Contracting Officer will be also serially numbered with no numbers missing or duplicated.

## 11. COMMENCEMENT AND COMPLETION OF WORK:

Contractor shall begin work within 10 calendar days of purchase order award and complete all work ready for use not later than 60 calendar days after date of receipt by the Contractor of the notice to proceed. The time stated for completion includes final cleanup of the premises.

## 12. LIQUIDATED DAMAGES

(a) If the Contractor fails to complete the work within the time specified in the Contract, or any extension, the Contractor shall pay to the Government as liquidated damages, the sum of \_\_\_\_ \$878.00 for each day of delay.

(b) If the Government terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the Government in completing the work.

(c) If the Government does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

## 13. WORK SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS AND DRAWINGS:

### 13.1 Specifications:

<u>Section No.</u>	<u>Section Title</u>
01001	Supplementary Requirements (contained herein)
01330	Submittals
05055	Steel Castings
05502	Metals: Miscellaneous, Standard Articles, Shop Fabricated Items

### 13.2 Drawings:

<u>FILE NUMBER</u>	<u>SHEET NUMBER</u>	<u>PLATE NUMBER</u>	<u>TITLE</u>	<u>REVISION NUMBER</u>	<u>DATE</u>
			Construct Small Lock Guard Gate Castings, H.M. Chittenden Locks, Lake Washington Ship Canal, Seattle, Washington		
			<u>GENERAL</u>		
C-2-4-308	1	G-1	Title Sheet, Drawing Index, Area and Vicinity Maps		01NOV16
	2	G-2	Location Map		01NOV16

3	S-1	<u>STRUCTURAL</u> Quoin Post Reaction Castings Plans and Sections	01NOV16
4	S-2	Miter Post Reaction Castings Plans and Sections	01NOV16
5	S-3	Pintle Shoe Casting Plan and Sections	01NOV16

### REFERENCE DRAWINGS

Reference drawings provided show conditions at time of construction. These drawings are furnished for information only and the Government does not warrant that conditions will be exactly as shown. Minor deviations can be anticipated and shall not be the basis for a claim for extra compensation.

FILE NUMBER	REF DWG NUMBER	TITLE	REV NO.	DATE
LWC 46	1	<b>Lake Washington Canal - Gates for 30 Ft Locks</b> Details & Assembly of Pintle & Castings		20DEC31
LWC 92	2	<b>Lake Washington Canal -30' x 150' Lock</b> Upper Operating and Guard Gates		20DEC31
LWC 94	3	Lower Guard Gate		20DEC31
FILE NUMBER	REF DWG NUMBER	TITLE	REV NO.	DATE
C-2-4-213	4	<b>Penn Bridge Company - Shop Drawings</b> Erection Plan - Gates F & G		13NOV24
	5	Erection Plan - Gates K		13NOV24
	6	[Miter Castings and Bearing Bars]		13NOV24
	7	[Quoin and Foundation Castings]		13NOV24

END OF SECTION  
SECTION 01330  
SUBMITTAL PROCEDURES

\*\*\*\*\*

NOTE: 1 This guide specification covers the general description and procedures to be used in making submittals called for in other sections of the specifications and is to be used in the preparation of project specifications (ER 1110-345-720).

NOTE: 2 The SD numbers, titles, and descriptions provided herein have been established by the SPECSINTACT Configuration, Control, and Coordination Board and should not be changed. These SD numbers and titles are used throughout the technical sections and changes would introduce inconsistencies.

See Additional Notes A - E

\*\*\*\*\*

## PART 1 GENERAL

### 1.1 CONTROL AND SCHEDULING OF SUBMITTALS

#### 1.1.1 Submittal Coordination Meeting

During the preconstruction coordination meeting with the COR, the Contractor shall provide and develop an approved preliminary submittal register, ENG Form 4288. During the meeting all required items will be identified and grouped into three categories:

- Government Approved (GA)

Government approval is required for extensions of design, critical materials, variations/deviations, an "or equal" decision, equipment whose compatibility with the entire system must be checked, architectural items such as Color



Charts/Patterns/Textures, and other items as designated by the COR. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," these submittals will be acted on as "shop drawings."

- For Information Only (FIO)

Submittals not requiring Government approval will be for information only. These are items such as Installation Procedures, Certificates of compliance, Samples, Qualifications, etc. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," these submittals will not be acted on as "shop drawings."

- Those items that can be visually inspected by the Contractor's Quality Control Representative (CQC) on site or are provided to the Government other than with an ENG Form 4025: The items that fall into this category shall remain on the register but shall not be submitted to the COR. For these items, the "Classification" column on the submittal register shall remain blank.

#### 1.1.2 Final Submittal Register

The final submittal register shall be submitted within 15 days of Notice to Proceed.

### 1.2 SUBMITTAL TYPES

#### Data

Submittals which provide calculations, descriptions, or documentation regarding the work.

#### Drawings

Submittals which graphically show relationship of various components of the work, schematic diagrams of systems, details of fabrication, layouts of particular elements, connections, and other relational aspects of the work.

#### Instructions

Preprinted material describing installation of a product, system or material, including special notices and material safety data sheets, if any, concerning impedances, hazards, and safety precautions.

#### Schedules

Tabular lists showing location, features, or other pertinent information regarding products, materials, equipment, or components to be used in the work.

#### Statements

A document, required of the Contractor, or through the Contractor from a subcontractor, supplier, installer, or manufacturer to confirm the quality or orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel, qualifications, or other quality verifications.

#### Reports

Reports of inspections or tests, including analyses and interpretation of test results. Each report shall be properly identified. Test methods used shall be identified and test results shall be recorded.

#### Certificates

Statement signed by an official authorized to certify on behalf of the manufacturer that a product, system or material meets specified requirements. The statement must be dated after the award of this contract and state the Contractor's name and address, project and location, and list specific requirements which are being certified.

#### Samples

Fabricated and/or unfabricated physical examples of materials, products, and/or units of work as complete units or as portions of units.

## Records

Documentation to record compliance with technical or administrative requirements.

### Operation and Maintenance Manuals

Data which forms a part of an operation and maintenance manual.

## 1.3 APPROVED SUBMITTALS

The approval of submittals by the COR shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist. The Contractor, under the CQC requirements of this contract, is responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work. After submittals have been approved by the COR, no resubmittal for the purpose of substituting materials or equipment will be given consideration.

## 1.4 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the COR and promptly furnish a corrected submittal in the format and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, written notice, as required under the Contract Clause entitled "Changes," shall be given to the COR.

## 1.5 PAYMENT

Separate payment will not be made for submittals, and all costs associated therein shall be included in the applicable unit prices or lump sum prices contained in the schedule. Payment will not be made for any material or equipment which does not comply with contract requirements.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

### 3.1 GENERAL

Prior to submittal, all items shall be checked and approved by the Contractor's CQC and each item of the submittal shall be stamped, signed, and dated. Each respective transmittal form (ENG Form 4025) shall be signed and dated by the CQC certifying that the accompanying submittal complies with the contract requirements. This procedure applies to all submittals. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including, but not limited to, catalog cuts, diagrams; operating charts or curves; test reports; test cylinders; samples; certifications; warranties and other such required items. Units of weights and measures used on all submittals shall be the same as the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. GA submittals shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. The Contractor shall maintain a complete and up-to-date file of all submittals/items on for use by both the Contractor and the Government.

### 3.2 SUBMITTAL REGISTER (ENG Form 4288)

\*\*\*\*\*

NOTE: ENG Form 4288 is not a part of this guide specification; the completed form must be developed for each project by the Contractor for Divisions 2 through 16, and by the specification writer for Division 1. If additional review time or number of copies are required for designer review of submittals, this should be noted in the "Remarks" column.

\*\*\*\*\*

The submittal register - ENG Form 4288 - for Divisions 2 through 16 shall be developed by the Contractor prior to the preconstruction coordination meeting and list each item of equipment and material for which submittals are required in the Technical Specifications (See paragraph SUBMITTALS at the beginning of each specification section. A blank form ENG 4288 is attached at the end of this specification section). The Contractor shall approve all items listed on the submittal register. During the preconstruction coordination meeting, a preliminary submittal register will be created by annotating this Form 4288. When the final submittal register is submitted for approval, the Contractor

shall complete the column entitled "Item No." and all data under "Contractor Schedule Dates" and return five completed copies to the COR for approval. The Contractor shall review the list to ensure its completeness and may expand general category listings to show individual entries for each item. The numbers in column "Item No." are to be assigned sequentially starting with "1" for each specification section. DO NOT preassign transmittal numbers when preparing the submittal register. When a conflict exists between the submittal register and a submittal requirement in the technical sections, other than those submittals referenced in Paragraph 3.9: Field Test Reports, the approved submittal register shall govern. The preliminary, and then the final approved submittal register, will become the scheduling documents and will be updated monthly and used to control submittals throughout the life of the contract. Names and titles of individuals authorized by the Contractor to approve shop drawings shall be submitted to COR with the final 4288 form. Supplier or subcontractors certifications are not acceptable as meeting this requirement.

### 3.3 SCHEDULING

Submittals covering component items forming a system, or items that are interrelated, shall be coordinated and submitted concurrently. Certifications shall be submitted together with other pertinent information and/or drawings. Additional processing time beyond 15 days, or number of copies, may be shown by the COR on the submittal register attached in the "Remarks" column, or may be added by the COR during the coordination meeting. No delays damages or time extensions will be allowed for time lost due to the Contractor not properly scheduling and providing submittals.

### 3.4 TRANSMITTAL FORM (ENG Form 4025)

Transmittal Form 4025 (sample at end of this section) shall be used for submitting both GA and FIO submittals in accordance with the instructions on the reverse side of the form. Transmittal numbers shall be assigned sequentially. Electronic generated 4025 forms shall be printed on carbonless paper and be a reasonable facsimile of the original 4025. If electronic forms are not used, the original 4025 forms shall be used (do not photo copy) and will be furnished by the COR. These forms shall be filled in completely prior to submittal. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.. Each submittal item shall be listed separately on the form, naming subcontractor, supplier, or manufacturer, applicable specification paragraph number(s), drawing/sheet number, pay item number, and any other information needed to identify the item, define its use, and locate it in the work. One or more 4025 forms may be used per specification section, however, DO NOT include more than one specification section per transmittal.

### 3.5 CROSS-REFERENCE (ENG FORM 4288/ENG FORM 4025)

To provide a cross-reference between the approved submittal register and transmittal forms, the Contractor shall record the "transmittal numbers" assigned when submitting items in column "Transmittal No." of the ENG FORM 4288. The item numbers in column "Item No." of submittal register shall correspond to the item numbers on ENG Form 4025.

### 3.6 SUBMITTAL PROCEDURE

#### 3.6.1 General

Shop drawings with 4025 forms shall be submitted in the number of copies specified in subparagraphs "Government Approved Submittals" and "Information Only Submittals," or as indicated on the submittal register in the "Remarks" column. Submit a complete collated "reviewers copy" with one 4025 form and attachments (not originals). The remaining copies (4 for GA, 2 for FIO) of 4025 forms and attachments shall not be collated. This would not apply to a series of drawings.

#### 3.6.2 Approval of Submittals by the Contractor

Before submittal to the COR, the Contractor shall review and correct shop drawings prepared by subcontractors, suppliers, and itself, for completeness and compliance with plans and specifications. The Contractor shall not use red markings for correcting material to be submitted. Red markings are reserved for COR's use. Approval by the Contractor shall be indicated on each shop drawing by an approval stamp containing information as shown in this section. Submittals not conforming to the requirements of this section will be returned to the Contractor for correction and resubmittal.

#### 3.6.3 Variations

For submittals which include proposed variations requested by the Contractor, column "h" of ENG Form 4025 shall be checked and the submittal shall be classified as GA, and submitted accordingly. The Contractor shall set forth in writing the justification for any variations and annotate such variations on the transmittal form in the REMARKS block. Variations are not approved unless there is an advantage to the Government. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted variations.

\*\*\*\*\*  
**NOTE: For METRIC DRAWINGS, select metric measurements below.**  
 \*\*\*\*\*

### 3.6.4 Drawings

Each drawing shall be not more than 28 inches high by 40 inches wide, with a title block in lower right hand corner and a 3 by 4 inch clear area adjacent. The title block shall contain the subcontractor's or fabricator's name, contract number, description of item(s), bid item number, and a revision block. Provide a blank margin of 3/4 inch at bottom, 2 inches at left, and 1/2 inch at top and right. Where drawings are submitted for assemblies of more than one piece of equipment or systems of components dependent on each other for compatible characteristics, complete information shall be submitted on all such related components at the same time. The Contractor shall ensure that information is complete and that sequence of drawing submittal is such that all information is available for reviewing each drawing. Drawings for all items and equipment, of special manufacture or fabrication, shall consist of complete assembly and detail drawings. All revisions after initial submittal shall be shown by number, date, and subject in revision block.

#### 3.6.4.1 Submittals Containing Drawings Larger than 11 inch by 17 inch

For GA submittals containing drawings larger than A3 size 11 inch by 17 inch, one reproducible and one blue line copy will be required to be submitted with five copies of the ENG Form 4025. The marked-up reproducible (and/or any review comments contained on the page-size comment sheet(s) at the Government's option) will be returned to the Contractor upon review. The Contractor shall provide three copies of blue line drawings (generated from the reviewed reproducible) to the Government within 10 days of Contractor's receipt of the reviewed reproducible. The Contractor shall not incorporate approved work into the project until the Government has received the three blue line copies. The Contractor shall use the marked-up reproducible to make any additional copies as needed. For FIO submittals, one reproducible and two blue line copies shall be submitted with the appropriate number of copies of ENG Form 4025.

### 3.6.5 Printed Material

All requirements for shop drawings shall apply to catalog cuts, illustrations, printed specifications, or other data submitted, except that the 75 mm by 100 mm (3 inch by 4 inch) clear area adjacent to the title block is not mandatory. Inapplicable portions shall be marked out and applicable items such as model numbers, sizes, and accessories shall be indicated by arrow or highlighted.

## 3.7 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

## 3.8 GOVERNMENT APPROVED SUBMITTALS (GA)

The Contractor shall submit 5 copies of GA submittals with 5 corresponding 4025 forms. Upon completion of GA submittal review, copies as specified below will be marked with an action code, dated, and returned to the Contractor. See "Drawings" above for special instructions if drawings larger than size A3 (11 inch by 17 inch) are used.

### 3.8.1 Processing of GA Submittals

Submittals will be reviewed and processed as follows:

- a. Approved as Submitted (Action Code "A"): Shop drawings which can be approved without correction will be stamped "Approved" and two copies will be returned to the Contractor. No resubmittal required.
- b. Approved Except as Noted (Action Code "B"): Shop drawings which have only minor discrepancies will be annotated in red to indicate necessary corrections. Marked material will be stamped "Approved Except as Noted" and two copies returned to the Contractor for correction. No resubmittal required.

- c. Approved Except as Noted (Action Code "C"): Shop drawings which are incomplete or require more than minor corrections will be annotated in red to indicate necessary corrections. Marked material will be stamped "Approved Except as Noted - Resubmission Required" and two copies returned to the Contractor for correction. Resubmittal of only those items needing correction required.
- d. Disapproved (Action Code "E"): Shop drawings which are fundamentally in error, cover wrong equipment or construction, or require extensive corrections, will be returned to the Contractor stamped "Disapproved." An explanation will be furnished on the submitted material or on ENG Form 4025 indicating reason for disapproval. Complete resubmittal required.
- e. Resubmittal will not be required for shop drawings stamped "A" or "B" unless subsequent changes are made by Contractor or a contract modification. For shop drawings stamped "C" or "E," Contractor shall make corrections required, note any changes by dating the revisions to correspond with the change request date, and promptly resubmit the corrected material. Resubmittals shall be associated with the "parent" by use of sequential alpha characters (for example, resubmittal of transmittal 8 will be 8A, 8B, etc). Government costs incurred after the first resubmittal may be charged to the Contractor.

### 3.9 INFORMATION ONLY SUBMITTALS (FIO)

The Contractor shall submit three copies of data and four copies of ENG Form 4025. FIO submittals will not be returned. Government approval is not required on FIO submittals. These submittals will be used for information purposes. The Government reserves the right to require the Contractor to resubmit any item found not to comply with the Contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications and will not prevent the COR from requiring removal and replacement if nonconforming material is incorporated in the work. This does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or check testing by the Government in those instances where the technical specifications so prescribe.

#### 3.9.1 Processing of FIO Submittals

FIO submittals shall be submitted prior to delivery of the material or equipment to the job site. ENG Form 4025 shall be marked with the words "contractor approved - information copy only" in the REMARKS block of the form. Submittals will be monitored and spot checks made. When such checks indicate noncompliance, the Contractor will be notified by the same method used for GA submittals. Resubmittal of nonconforming FIO submittals shall be reclassified GA and shall be in five copies.

### 3.13 CONTRACTOR APPROVAL STAMP

The stamp used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR: \_\_\_\_\_  
 CONTRACT NUMBER \_\_\_\_\_

TRANSMITTAL NUMBER \_\_\_\_\_  
 ITEM NUMBER \_\_\_\_\_  
 SPECIFICATION SECTION \_\_\_\_\_  
 PARAGRAPH NUMBER \_\_\_\_\_  
 \_\_\_\_\_ APPROVED AS SUBMITTED  
 \_\_\_\_\_ APPROVED WITH CORRECTIONS AS NOTED

SIGNATURE: \_\_\_\_\_  
 TITLE: \_\_\_\_\_  
 DATE \_\_\_\_\_

### CONTRACTORS REVIEW STAMP

MAXIMUM SIZE: 3 INCHES BY 3 INCHES

PROPERTY OF THE U.S. AIR FORCE

## INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal form will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications-also, a written statement to that effect shall be included in the space provided for "Remarks".
7. Form is self-transmittal, letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

### THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A --	Approved as submitted.	E --	Disapproved (See attached).
B --	Approved, except as noted on drawings.	F --	Receipt acknowledged.
C --	Approved, except as noted on drawings. Refer to attached sheet resubmission required.	FX --	Receipt acknowledged, does not comply as noted with contract requirements.
D --	Will be returned by separate correspondence.	G --	Other (Specify)

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)



## SECTION 05055

## METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS

## PART 1 GENERAL

## 1.1 PURPOSE

This section specifies the general workmanship standards applicable to the fabrication, assembly and testing of various items of metalwork and machine work required for the rehabilitation of the small lock guard gates. These requirements are in addition to those indicated on the drawings.

## 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

## AMERICAN SOCIETY OF MECHANICAL ENGINEERS INTERNATIONAL (ASME)

ASME B4.1 (1967; R1994) Preferred Limits and Fits for Cylindrical Parts

ASME B46.1 (1985) Surface Texture (Surface Roughness, Waviness, and Lay)

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 165 (1995) Liquid Penetrant Examination Inspection Method

ASTM E 709 (1995) Magnetic Particle Examination

## AMERICAN WELDING SOCIETY (AWS)

AWS D1.1 (1994) Structural Welding Code - Steel

## 1.3 SUBMITTALS

Government approval is required for all submittals with a 'G' designation; submittals not having a 'G' designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

## SD-02 Shop Drawings

## Shop Fabricated Metal Items; G

Detail drawings for metalwork and machine work shall be submitted and approved prior to fabrication. Drawings shall include fabrication and installation details, and type, grade, and class of materials, as appropriate. Any component part of fabricated items omitted on contract drawings or reference drawings shall be detailed by the fabricator on the shop drawings.

## SD-03 Product Data

## Structural Steel Welding Repairs; G

Welding repair plans for all steel, including castings, shall be submitted and approved prior to making repairs.

## Material Orders

Copies of purchase orders, mill orders, shop orders and work orders for materials, including all new orders placed by Contractors and old orders extended by each supplier, shall be submitted prior to the use of any materials in the work. Where mill tests are required, the purchase orders shall contain the test site address and the name of the testing agency.

#### Materials List

Materials list for fabricated items shall be submitted at the time of submittal of detail drawings.

#### Shipping Bill

Shipping bills shall be submitted with the delivery of finished pieces to the site.

#### SD-06 Test Reports

##### Tests, Inspections and Verifications

Certified test reports for material tests and analyses shall be submitted with all materials delivered to the site.

#### SD-07 Certificates

##### Qualification of Welders and Welding Operators

Certifications for welders and welding operators shall be submitted prior to commencing fabrication.

#### 1.4 METALWORK AND MACHINE WORK DETAIL DRAWINGS

Detail drawings for metalwork and machine work shall include fabrication and assembly details and type, grade and class of materials, as appropriate. Elements of fabricated items inadvertently omitted on contract drawings, or partial replacement using welding as directed by the Contracting Officer, shall be detailed by the fabricator and indicated on the drawings.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

##### 2.1.1 Materials Orders

The Contractor shall furnish 3 copies of purchase orders, mill orders, shop orders and work orders for all materials orders and items used in the work. Where mill tests are required, purchase orders shall contain the test site address and the name of the testing agency.

##### 2.1.2 Materials List

The Contractor shall furnish a materials list of the materials to be used in the fabrication of each item.

##### 2.1.2 Shipping Bill

The Contractor shall furnish a shipping bill or memorandum of each shipment of finished pieces to the project site giving the HMCL designation mark and weight of each item, the number of items, the total weight, and the car initial and number if shipped by rail in carload lots.

#### 2.2 FABRICATION

##### 2.2.1 Structural Fabrication

Material must be straight before being laid off or worked. If straightening is necessary, it shall be done by methods that will not impair the metal. Sharp kinks or bends shall be cause for rejection of the material. Material with welds will not be accepted, except where welding is definitely specified, indicated on the drawings, directed by the Contracting Officer for replacement of corroded material or otherwise approved. Bends, except for minor details, shall be made by approved dies, press brakes, or bending rolls. Where heating is required, precautions shall be

taken to avoid overheating the metal, and it shall be allowed to cool in such a manner as not to destroy the original properties of the metal. Shearing shall be accurately done and all portions of the work shall be neatly finished. Corners shall be square and true, unless otherwise shown on the drawings. Reentrant cuts shall be filleted to a minimum radius of 3/4 inch unless otherwise approved. Finished members shall be free from twists, bends, and open joints. All bolts, nuts, and screws shall be tight.

#### 2.2.1.1 Dimensional Tolerances for Structural Work

Dimensions shall be measured by means of an approved calibrated steel tape of approximately the same temperature as the material being measured at the time of measurement. The overall dimensions of an assembled structural unit shall be within the tolerances indicated on the drawings. Except as required to meet the requirements above, an allowable variation of 1/32 inch is permissible in the overall length of individual component members with both ends milled; individual component members without milled ends shall not deviate from the dimensions shown on the drawings by more than 1/16 inch for members 30 feet or less in length and by more than 1/8 inch for members over 30 feet in length. In any event, structures or assemblies made from two (2) or more members (milled or unmilled) shall not deviate from the overall dimensions shown on the drawings by more than the tolerance for any one member.

#### 2.2.1.2 Structural Steel Fabrication

Flame cutting of material other than structural steel shall be subject to approval and where proposed shall be indicated on shop drawings submitted to the Contracting Officer. Structural steel may be cut by mechanically guided or hand guided torches, provided an accurate profile with a smooth surface that is free from cracks and notches is obtained. Surfaces and edges to be welded shall be prepared in accordance with Subsection 3.2 of AWS D1.1. All edges, to be painted and not be welded, shall be rounded or chamfered a minimum of 1/16 of an inch. All slivers shall be removed. Where crevices are formed in bolted or welded connections, seal welding or shimming to close off the crevice shall be accomplished.

#### 2.2.2 Welding

##### 2.2.2.1 Welding of Structural Steel

a. Welding Procedures for Structural Steel: The Contractor shall submit to the Contracting Officer a complete schedule of welding procedures which shall consist of detailed procedure specifications for each structure to be welded and tables or diagrams showing the procedure to be used for each required joint. Each welding procedure shall have an identifying mark number. Each weld symbol on the shop drawings shall have the appropriate weld procedure mark number shown in the tail of the weld symbol. The schedule shall conform to the provisions of sections 2, 3, 4, 7 and 9 of AWS D1.1, include filler metal requirements, preheat and interpass temperature requirements and any stress relief heat treatment, and show the types and locations of welds designated in the specifications to receive nondestructive examination. The procedures shall be such as to minimize residual stresses and distortion of the completed weldment. Procedures shall be qualified by tests as required and prescribed in section 5 of AWS D1.1 except for prequalified procedures as described in Article 5.1 of AWS D1.1. Properly documented evidence of compliance with all requirements of these specifications for previous qualification tests will establish the joint welding procedure as prequalified. Each procedure shall be clearly identified as being either prequalified or qualified by tests. The test welding and specimen testing must be witnessed and the test report document signed by a representative of the Contracting Officer. The Contractor will be directed and authorized to make any changes in previously approved welding procedures that are deemed necessary or desirable by the Contracting Officer. Approval of any procedure, however, will not relieve the Contractor of the responsibility for producing a finished structure meeting all requirements of these specifications.

b. Welding Process. Unless otherwise authorized, welding of structural steel shall be by an electric arc-welding process, using a method that excludes the atmosphere from the molten metal. Welding, unless otherwise specified, shall conform to the applicable provisions of sections 1 through 7 and sections 9, 10 and 11 of AWS D1.1.

##### c. Welding Technique

(1) Filler Metal: The electrode, electrode-flux combination, and grade of weld metal shall conform to the appropriate AWS specification for the base metal and welding process being used. Only low hydrogen electrodes shall be used for manual shielded metal-arc welding regardless of the thickness of the steel. The AWS designation of the electrodes to be used shall be included in the schedule of welding procedure to be furnished by the Contractor. To maintain low moisture of low hydrogen electrodes, a controlled temperature storage oven shall be used at the jobsite as prescribe by subsection 4.5 of AWS D1.1.

(2) Preheat and Interpass Temperature: Preheating shall be performed as required by subsections 4.2 and 4.3 of AWS D1.1 or as otherwise specified, except that the temperature of the base metal shall be at least 70° F. The weldments to be preheated shall be slowly and uniformly heated by approved means to the prescribed temperature, held at that temperature until the welding is completed, and then permitted to cool slowly in still air.

(3) Stress Relief Heat Treatment: Where stress relief heat treatment is specified or required on the drawings, it shall be in accordance with the requirements of subsection 4.4 of AWS D1.1, unless otherwise authorized or directed by the Contracting Officer.

d. Workmanship

(1) Preparation of Base Metal: Prior to welding the Contractor shall inspect surfaces to be welded to assure compliance with Subsection 3.2 of AWS D1.1.

(2) Temporary welds required for fabrication and erection shall be made under the controlled conditions prescribed herein for permanent work. All temporary welds shall be made using low-hydrogen welding electrodes by welders qualified for permanent work as specified elsewhere in these specifications. Preheat furnished for temporary welds shall be as required by AWS D1.1 for permanent welds, except that the minimum temperature shall be 120° F in any case. In making temporary welds, arcs shall not be struck in other than weld locations. Each temporary weld shall be removed after serving its purpose and ground flush with adjacent surfaces.

(3) Tack welds that are to be incorporated into the permanent work shall be subject to the same quality requirements as the permanent welds. Preheating shall be performed as specified for temporary welds above. Such tack welds shall be cleaned and fused thoroughly with the permanent welds. Multiple-pass tack welds shall have cascaded ends. Defective tack welds shall be removed before permanent welding.

2.2.2.2 Welding of Steel Castings:

Castings shall have all unsound material removed by chipping, machining, air-arc gouging or grinding of any surfaces that will be incorporated into welded connections. Major connections, designed for transfer of stresses, shall not be welded if the temperature of the casting is lower than 100° F. Castings containing over 0.35 percent carbon or over 0.75 percent manganese shall be preheated to a temperature not to exceed 450° F and welding shall be accomplished while the castings are maintained at a temperature above 350° F. The Contracting Officer will not permit welding on castings containing carbon in excess of 0.45 percent, except on written authorization. Castings requiring welding repairs after the first annealing and castings involving welding fabrication shall be stress relieved annealed prior to receiving final machining unless otherwise permitted by the Contracting Officer.

2.2.3 Bolt Hole Locations for Steel Castings

All bolt hole locations shall have bosses spot-faced to the dimensions shown on the drawings. No holes shall be drilled in castings under this contract. Puget Sound Naval Shipyard will match drill all holes when they assemble the gate leaves.

2.2.4 Patterns

In rehabilitation of patterns provided by the Government, or construction of new patterns, care shall be taken to avoid sharp corners or abrupt changes in cross section, and ample fillets shall be used. The Contractor shall add such draft and increases in pattern thicknesses as will conform to his standard foundry practice and as may be necessary to insure that all metal thicknesses of the finished castings will be in accordance with the dimensions shown on the drawings, within the tolerances specified in Paragraph INSPECTION. Patterns provided by the Government are not necessarily ready to use in their present condition. The Contractor shall inspect the patterns and rehabilitate or make new patterns as necessary to accomplish the gate rehabilitation without additional charge to the Government.

2.2.4.1 Available Patterns

The patterns listed below by their HMCL Mark Number are available for loan to the Contractor:

- (1) Shoe: 3-G-1L and 3-G-1R
- (2) Pintle Casting: 3-G-2

- (3) Seal: 3-G-6L and 3-G-6R
- (4) Reaction Bearing:
  - Standard: 3-G-13
  - Bottom D/S: 3-G-15L and 3-G-15R
  - Bottom U/S: 3-G-16L and 3-G-16R
- (5) Quoin Post Reaction Casting:
  - Bottom: 3-G-40L and 3-G-40R
  - Standard: 3-G-41
  - Top U/S: 3-G-42L and 3-G-42R
  - Top D/S: 3-G-44L and 3-G-44R
- (6) Miter Post Reaction Casting:
  - Bottom: 3-G-45L and 3-G-45R
  - Standard: 3-G-46
  - Top U/S: 3-G-47L and 3-G-47R
  - Top D/S: 3-G-49L and 3-G-49R

#### 2.2.4.2 Disposition of Patterns

After use, all patterns required for the guard gates shall be thoroughly cleaned, crated, and delivered in first-class condition to the Hiram M. Chittenden Locks, Lake Washington Ship Canal, Seattle, Washington, together with a list of same in duplicate, before final payment is made. The Contracting Officer reserves the right to withhold payment for the final parts made from any pattern until such pattern is delivered. Patterns shall be varnished. The Contractor shall replace any pattern lost or damaged by the Contractor or in shipment without additional charge to the Government.

#### 2.2.5 Castings

Each new casting shall have the mark number cast or stamped into the metal. In addition, each casting weighing more than 500 pounds shall have the heat numbers cast or stamped into it. Deviations from the dimensions and the thicknesses of castings as shown on the drawings will not be permitted to exceed such amounts as will impair by more than 10 percent the strength of the castings as computed from the dimensions shown. Dimensions of castings shown on approved detail drawings shall be finished dimensions. Warped or otherwise distorted castings or castings that are oversize to an extent that will interfere with proper fit with other parts of the machinery or structure will be rejected. The structure of the metal in the castings shall be homogeneous and free from excessive nonmetallic inclusions. Excessive segregation of impurities at critical points in a casting will be cause for its rejection. The Contracting Officer shall not make repairs to castings prior to approval. Minor surface imperfections not affecting the strength of castings may be welded in the "green," if approved by the Contracting Officer. Surface imperfections shall be considered minor when the depth of the cavity prepared for welding is not greater than 1 inch. Defects other than minor surface imperfections may be welded only when specifically authorized in accordance with the following requirements:

- a. The defects have been entirely removed and are judged not to affect the strength, use, or machinability of the castings when properly welded and stress relieved.
- b. The proposed welding procedure, stress relieving, and method of examination of the repair work have been submitted and approved.
- c. Where repair welding is permitted, it shall be performed in accordance with the limitations and restrictions contained in Paragraph 2.3.1 below.

#### 2.2.6 Machine Work

All tolerances, allowances, and gages for metal fits between plain, nonthreaded cylindrical parts shall conform to ASME B4.1 for the class of fit as shown or otherwise required. Where fits are not shown, they shall be suitable as

determined by the Contracting Officer. Tolerances for machine-finished surfaces designated by nondecimal dimensions shall be within 1/64 inch. Sufficient machining stock shall be allowed on placing pads to insure true surfaces of solid material. Finished contact or bearing surfaces shall be true and exact to secure full contact. Journal surfaces shall be polished and all surfaces shall be finished with sufficient smoothness and accuracy to insure proper operation when assembled. Parts entering any machine shall be carefully and accurately machined and all like parts shall be interchangeable, provided that, where parts are assembled together for drilling and/or reaming of holes or for machining, the parts will not be required to be interchangeable with like parts insofar as the assembled operation is concerned after this operation is completed. All drilled holes for bolts shall be accurately located.

#### 2.2.6.1 Finished Surfaces

Where surface finishes are indicated on the drawings or specified herein, the symbols used or finishes specified shall be in accordance with ASME B46.1. Values of roughness height specified are arithmetical average deviations expressed in micro-inches. Roughness specified is the maximum value and any lesser degree will be satisfactory unless otherwise called for on the drawings. Compliance with specified surface shall be determined by sense of feel and by visual inspection of the work compared to Roughness Comparison Specimens, in accordance with the provisions of ASME B46.1. Values of roughness width and waviness height are not specified but shall be consistent with the general type of finish specified by roughness height. Flaws such as scratches, ridges, holes, peaks, cracks, or checks which will make the part unsuitable for the intended use will be cause for rejection. Where the finish is not indicated or specified, the type of finish shall be that which is most suitable for the surface to which it applies and shall be consistent with the class of fit required. Surfaces to be machine finished shall be indicated on the shop drawings by symbols that conform to ASME B46.1.

#### 2.2.6.2 Unfinished Surfaces

So far as practicable, all work shall be laid out to secure proper matching of adjoining unfinished surfaces. Where there is a large discrepancy between adjoining unfinished surfaces, they shall be chipped and ground smooth, or machined, to secure proper alignment. Unfinished surface shall be true to the lines and dimensions shown on the drawings and shall be chipped or ground free of all projections and rough spots. Depressions or holes not affecting the strength or usefulness of the parts shall be filled in a manner approved by Contracting Officer.

### 2.3 TESTS, INSPECTIONS AND VERIFICATIONS

The Contractor shall, at his expense, perform analyses and tests to demonstrate that all materials are in conformity with these specifications. Should the Contractor desire to use stock materials not manufactured specifically for the work covered by these specifications, he shall submit evidence, satisfactory to the Contracting Officer, which such material conforms to the requirements of the specifications. Detailed tests of these materials will then not be required, if so approved. Tests, except where modified, shall be made as indicated in the respective detailed specifications or on the drawings and, unless otherwise authorized, in the presence of the Contracting Officer. The Contractor shall furnish the Contracting Officer certified reports in accordance with SPECIAL CLAUSES of all required analyses and tests. The Contractor shall furnish the Contracting Officer, upon request, specimens and samples for independent analyses and tests. These specimens and samples shall be properly labeled and prepared for shipment.

#### 2.3.1 Non-Destructive Testing

When doubt exists as to the soundness of any material part, such part shall be subjected to any form of nondestructive testing as determined by the Contracting Officer. This may include ultrasonic, radiographic, magnetic particle inspection, or any other test that will thoroughly investigate the part in question. Any defects will be cause for rejection, and the rejected part shall be replaced and retested at the Contractor's expense.

#### 2.3.2 Inspection of Structural Steel Welding

Welding shall be subject to inspection by the Government to determine conformance with the requirements of AWS D1.1, the approved welding procedures, and provisions stated elsewhere in these specifications. The Contracting Officer may require nondestructive inspection of designated welds and may require supplemental examination of any joint or coupons to be cut from any location in a joint. The Contractor shall maintain an adequate inspection system and perform the necessary inspection in accordance with the Contractor Inspection System paragraph of the CONTRACT CLAUSES of this contract.

##### 2.3.2.1 Visual Examination

Prior to any welding, the Contractor shall visually inspect the preparation of material for welding to assure compliance with section 3 of AWS D1.1. All completed welds shall be cleaned and examined carefully by the Contractor for insufficient throat or leg sizes, cracks, undercutting, overlap, excessive convexity or reinforcement, and other surface defects to insure compliance with the requirements of section 3 and section 9, part D, of AWS D1.1. Defects shall be corrected as provided in Paragraph 2.3.3 below.

#### 2.3.2.2 Non-Destructive Examination

The non-destructive examination of shop and field welds shall be performed as hereinafter specified.

a. Testing Agency: The non-destructive examination of welds and the evaluation of examination tests as to the acceptability of the welds shall be performed by a testing agency adequately equipped and competent to perform such services or by the Contractor using suitable equipment and qualified personnel. In either case the Contracting Officer's written approval of the examination procedures is required and the examination tests shall be made in the presence of the Contracting Officer. The evaluation of examination tests shall be subject to the approval of the Contracting Officer and all records shall become the property of the Government.

##### b. Examination Procedures:

(1) Ultrasonic Testing: Making, evaluating and reporting ultrasonic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part C. The ultrasonic equipment shall be capable of making a permanent record of the test indications. A record shall be made of each weld tested.

(2) Radiographic Testing: Making, evaluating and reporting radiographic testing of welds shall conform to the requirements of AWS D1.1, Section 6, Part B.

(3) Magnetic Particle Inspection: Magnetic particle inspection of welds shall conform to the applicable provisions of ASTM E 709.

(4) Dye Penetrant Inspection: Dye penetrant inspection of welds shall conform to the applicable provisions of ASTM E 165.

c. Acceptability of Welds. Welds shall be unacceptable if shown to have defects prohibited by AWS D1.1, subsection 9.25 or possess any degree of incomplete fusion, inadequate penetration or undercutting.

d. Welds to be Subject to Non-Destructive Examination: All rewelds shall be examined using magnetic particle testing.

#### 2.3.2.3 Test Coupons

The Government reserves the right to require the Contractor to remove coupons from completed work when doubt as to soundness cannot be resolved by nondestructive examination. Should tests of any two coupons cut from the work of any welder show strengths less than that specified for the metal it will be considered evidence of negligence or incompetence and such welder shall be removed from the work. When coupons are removed, metalwork shall be repaired in a neat manner to develop the full strength of the item. Repaired joints shall be peened as approved or directed to relieve residual stress. The expense for removing and testing coupons, repairing cut items and the nondestructive examination of repairs shall be borne by the Government or the Contractor in accordance with the Contract Clauses INSPECTION AND ACCEPTANCE.

#### 2.3.2.4 Supplemental Examination

When the soundness of any weld is suspected of being deficient due to faulty welding or stresses that might occur during shipment or erection the Government reserves the right to require supplemental non-destructive examinations before final acceptance. The cost of such inspection will be borne by the Contractor.

#### 2.3.3 Structural Steel Welding Repairs

Defective welds shall be repaired in accordance with AWS D1.1, Subsection 3.7. A welding repair plan shall be submitted for approval before repairs are made when deemed necessary by the Contracting Officer. Defective weld metal shall be removed to sound metal by use of air carbon-arc gouging. The surfaces shall be thoroughly cleaned

before welding. Welds that have been repaired shall be retested by the same methods used in the original inspection. Except for repair of members cut to remove test coupons and found to contain acceptable welds costs of repairs and retesting shall be borne by the Contractor.

## PART 3 EXECUTION

### 3.1 INSTALLATION

#### 3.1.1 Gate Anchorage Phosphor Bronze [PB] Bushings

Contractor shall install PB bushing 3-G-20B in anchor eyebar 3-G-20, PB bushing 3-G-22 in gudgeon eyebar 3-G-19 and PB bushing 3-G-26B in clevis 3-G-26 using force fit as shown on Plate S-2.

#### 3.1.2 Pintle Aluminum Bronze [AB] Bushing

Contractor shall install AB bushing 3-G-B in shoe casting 3-G-1 with ½-inch diameter steel screw dowels spaced @ 120 degrees as shown on Plate S-6.

### 3.2 PROTECTION OF FINISHED WORK

#### 3.2.1 Primer Coat

After rework and final approval, sandblast all casting surfaces, with the exception of machined surfaces, to conform with SSPC SP-10 [near white metal blast] and apply a 3 mil [dry film thickness] primer coat consisting of Wasser High-Tech Coating [Moisture Cure] MC-Zinc.

#### 3.2.2 Machined Surfaces

All machined surfaces that bear upon each other shall be coated with a removable clear acrylic to protect the surfaces during shipment.

- END OF SECTION -

## SECTION 05502

### METALS: MISCELLANEOUS, STANDARD ARTICLES, SHOP FABRICATED ITEMS

## PART 1 GENERAL

### 1.1 SCOPE

The work covered by this section consists of providing all equipment, labor, and materials in connection with fabrication and assembly of various items of metalwork required for the rehabilitation of the small lock guard gates. Additional fabrication requirements and workmanship provisions for items specified in this section shall conform to Section 05055

METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

### 1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 27/A 27M	(1995) Steel Castings, Carbon, for General Application
-----------------	--

ASTM A 29/A 29M	(1999) Steel Bars, Carbon and Alloy, Hot-Wrought and Cold-Finished
-----------------	--



ASTM A 148/A 148M	(2001) Steel Castings, High Strength, for Structural Purposes
ASTM A 193/A 193M	(2001b) Alloy Steel and Stainless Steel Bolting Materials for High-Temperature Service
ASTM A 307	(2000) Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength
ASTM A 668/A 668M	(1996) Steel Forgings, Carbon and Alloy, for General Industrial use
ASTM B 138/B 138M	(2001) Manganese Bronze Rod, Bar and Shapes
ASTM B 139/B 139M	(2001) Phosphor Bronze Rod, Bar and Shapes
ASTM B 148	(1997) Aluminum Bronze Sand Castings

### 1.3 SUBMITTALS

Government approval is required for all submittals with a 'G' designation; submittals not having a 'G' designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

#### SD-02 Shop Drawings

Shop Fabricated Metal Items; G

Detail drawings shall be submitted for approval in accordance with the SPECIAL CLAUSES and Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS. Drawings shall include catalog cuts, fabrication and installation details; and type, grade, and class of materials, as appropriate. Any component part of fabricated items omitted on contract drawings or reference drawings shall be detailed by the fabricator on the shop drawings.

#### SD-03 Product Data

Miscellaneous Metals and Standard Metal Articles; G  
Shop Fabricated Metal Items; G

Lists of materials shall be submitted for approval as specified and in Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

Records that identify the disposition of approved material and fabricated items in the work must be submitted for approval as specified and in Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

#### SD-06 Test Reports

Miscellaneous Metals and Standard Metal Articles; G  
Shop Fabricated Metal Items; G

Certified test reports for material tests and analyses shall be submitted for approval as specified in Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

### 1.4 FABRICATION AND WORKMANSHIP REQUIREMENTS

Fabrication requirements and workmanship provisions for items specified in this section shall conform to the requirements of Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

## PART 2 PRODUCTS

## 2.1 MISCELLANEOUS METALS AND STANDARD METAL ARTICLES

Miscellaneous metal materials and standard metal articles shall conform to the respective specifications and other designated requirements. Sizes shall be as specified or shown. Where material requirements are not specified, materials furnished shall be suitable for the intended use and shall be subject to approval.

### 2.1.1 Steel

#### 2.1.1.1 Miter Bearing Alloy Steel Bars

ASTM A 29/A 29M, Grade 1040, UNS G10400.

#### 2.1.1.2 Pintle and Gate Anchorage Component Steel Forgings

ASTM A 668/A 668M, Class H, carbon content not exceeding 0.35 percent, and an overall chemical composition which results in satisfactory weldability.

#### 2.1.1.3 Pintle, Seal, Reaction Bearing, Quoin Post Reaction and Miter Post Reaction Steel Castings

ASTM A 27/A 27M, Grade 70-40, Class 1 for all rework, plus Supplementary Requirement S1, UNS J02501.

#### 2.1.1.4 Shoe Steel Casting

ASTM A 148/A 148M, Grade 105-85, plus Supplementary Requirement S1.

### 2.1.2 Bronze

#### 2.1.2.1 Aluminum Bronze Casting

ASTM B 148, Copper Alloy UNS C95400.

#### 2.1.2.2 Manganese Bronze Rods, Bars and Shapes

ASTM B 138/B 138M, Temper H04, Copper Alloy UNS C67500.

#### 2.1.2.3 Phosphor Bronze Rods, Bars and Shapes

ASTM A B 139/B 139M, Temper H04, Copper Alloy UNS C51000.

### 2.1.3 Screws

Screws shall be of the material, grade, type, style and finish indicated or best suited for use intended.

#### 2.1.3.1 Gudgeon Pin Cap Screw

ASTM A 193/A 193M, Grade B-3 Stainless Steel.

#### 2.1.3.2 Pintle Bushing to Shoe Screw Dowel

ASTM A 307, Grade A Steel.

## 2.2. SHOP FABRICATED METAL ITEMS

Shop-fabricated metal items shall conform to the requirements and details as specified or shown on the drawings, including reference drawings where applicable, and to the workmanship provisions and other applicable fabrication requirements as specified in Section 05055 METALWORK FABRICATION, MACHINE WORK, MISCELLANEOUS PROVISIONS.

## PART 3 EXECUTION (Not Applicable)

- END OF SECTION -

## 52.211-16 VARIATION IN QUANTITY (APR 1984)

(a) A variation in the quantity of any item called for by this contract will not be accepted unless the variation has been caused by conditions of loading, shipping, or packing, or allowances in manufacturing processes, and then only to the extent, if any, specified in paragraph (b) below.

(b) The permissible variation shall be limited to:

10% Percent increase

10% Percent decrease

This increase or decrease shall apply to CLIN's 0001 through 0007.

(End of clause)

## 52.211-17 DELIVERY OF EXCESS QUANTITIES (SEP 1989)

The Contractor is responsible for the delivery of each item quantity within allowable variations, if any. If the Contractor delivers and the Government receives quantities of any item in excess of the quantity called for (after considering any allowable variation in quantity), such excess quantities will be treated as being delivered for the convenience of the Contractor. The Government may retain such excess quantities up to \$250 in value without compensating the Contractor therefor, and the Contractor waives all right, title, or interests therein. Quantities in excess of \$250 will, at the option of the Government, either be returned at the Contractor's expense or retained and paid for by the Government at the contract unit price.

52.212-3 OFFEROR REPRESENTATIONS AND CERTIFICATIONS--COMMERCIAL ITEMS (APR 2002)  
ALTERNATE I (APR 2002)

(a) Definitions. As used in this provision:

"Emerging small business" means a small business concern whose size is no greater than 50 percent of the numerical size standard for the NAICS code designated.

"Forced or indentured child labor" means all work or service-

(1) Exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or

(2) Performed by any person under the age of 18 pursuant to a contract the enforcement of which can be accomplished by process of penalties.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service--disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and size standards in this solicitation.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern" means a small business concern--

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

"Women-owned business concern" means a concern which is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Taxpayer Identification Number (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701). (Not applicable if the offeror is required to provide this information to a central contractor registration database to be eligible for award.)

(1) All offerors must submit the information required in paragraphs (b)(3) through (b)(5) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the Internal Revenue Service (IRS).

(2) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(3) Taxpayer Identification Number (TIN).

\_\_\_ TIN:-----

\_\_\_ TIN has been applied for.

\_\_\_ TIN is not required because:

\_\_\_ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

Offeror is an agency or instrumentality of a foreign government;

\_\_\_ Offeror is an agency or instrumentality of the Federal Government.

(4) Type of organization.

\_\_\_ Sole proprietorship;

- ☐ Partnership;
- ☐ Corporate entity (not tax-exempt);
- ☐ Corporate entity (tax-exempt);
- ☐ Government entity (Federal, State, or local);
- ☐ Foreign government;
- ☐ International organization per 26 CFR 1.6049-4;
- ☐ Other-----

(5) Common parent.

☐ Offeror is not owned or controlled by a common parent;

☐ Name and TIN of common parent:

Name-----

TIN-----

(c) Offerors must complete the following representations when the resulting contract is to be performed inside the United States, its territories or possessions, Puerto Rico, the Trust Territory of the Pacific Islands, or the District of Columbia. Check all that apply.

(1) Small business concern. The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) Veteran-owned small business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(3) Service-disabled veteran-owned small business concern. (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(4) Small disadvantaged business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(5) Women-owned small business concern. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents that it ( ) is, ( ) is not a women-owned small business concern.

Note: Complete paragraphs (c)(6) and (c)(7) only if this solicitation is expected to exceed the simplified acquisition threshold.

(6) Women-owned business concern (other than small business concern). (Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents that it ( ) is, a women-owned business concern.

(7) Tie bid priority for labor surplus area concerns. If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price:

---

(8) Small Business Size for the Small Business Competitiveness Demonstration Program and for the Targeted Industry Categories under the Small Business Competitiveness Demonstration Program. (Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.)

(i) (Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the four designated industry groups (DIGs).) The offeror represents as part of its offer that it \* is, \* is not an emerging small business.

(ii) (Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or four designated industry groups (DIGs).) Offeror represents as follows:

(A) Offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

(B) Offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts).

(Check one of the following):

Average Annual

Number of Employees Gross Revenues

\_\_\_ 50 or fewer \_\_\_ \$1 million or less

\_\_\_ 51 - 100 \_\_\_ \$1,000,001 - \$2 million

\_\_\_ 101 - 250 \_\_\_ \$2,000,001 - \$3.5 million

\_\_\_ 251 - 500 \_\_\_ \$3,500,001 - \$5 million

\_\_\_ 501 - 750 \_\_\_ \$5,000,001 - \$10 million

\_\_\_ 751 - 1,000 \_\_\_ \$10,000,001 - \$17 million

\_\_\_ Over 1,000 \_\_\_ Over \$17 million

(9) (Complete only if the solicitation contains the clause at FAR 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns or FAR 52.219-25, Small Disadvantaged Business Participation Program-Disadvantaged Status and Reporting, and the offeror desires a benefit based on its disadvantaged status.)

(i) General. The offeror represents that either--

(A) It ( ) is, ( ) is not certified by the Small Business Administration as a small disadvantaged business concern and identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net), and that no material change in disadvantaged ownership and control has occurred since its certification, and, where the concern is owned by one or more individuals claiming disadvantaged status, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); or

(B) It ( ) has, ( ) has not submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(ii) Joint Ventures under the Price Evaluation Adjustment for Small Disadvantaged Business Concerns. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements in 13 CFR 124.1002(f) and that the representation in paragraph (c)(9)(i) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. (The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: \_\_\_\_\_.)

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal place of ownership, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (c)(10)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating on the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: \_\_\_\_\_.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(11) (Complete if the offeror has represented itself as disadvantaged in paragraph (c)(4) or (c)(9) of this provision.) (The offeror shall check the category in which its ownership falls):

\_\_\_\_ Black American.

\_\_\_\_ Hispanic American.

\_\_\_\_ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

\_\_\_\_ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

\_\_\_\_ Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

\_\_\_\_ Individual/concern, other than one of the preceding.

(d) Certifications and representations required to implement provisions of Executive Order 11246--

(1) Previous Contracts and Compliance. The offeror represents that--

(i) It ( ) has, ( ) has not, participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the and

(ii) It ( ) has, ( ) has not, filed all required compliance reports.

(2) Affirmative Action Compliance. The offeror represents that--

(i) It ( ) has developed and has on file, ( ) has not developed and does not have on file, at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR Subparts 60-1 and 60-2), or

(ii) It ( ) has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) Certification Regarding Payments to Influence Federal Transactions (31 U.S.C. 1352). (Applies only if the contract is expected to exceed \$100,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract.

(f) Buy American Act--Balance of Payments Program Certificate. (Applies only if the clause at Federal Acquisition Regulation (FAR) 52.225-1, Buy American Act--Balance of Payments Program--Supplies, is included in this solicitation.)

(1) The offeror certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product as defined in the clause of this solicitation entitled ``Buy American Act--Balance of Payments Program--Supplies" and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products.

(2) Foreign End Products:

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(3) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(g)(1) Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program Certificate. (Applies only if the clause at FAR 52.225-3, Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(1)(ii) or (g)(1)(iii) of this provision, is a domestic end product as defined in the clause of this solicitation entitled ``Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program" and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States.

(ii) The offeror certifies that the following supplies are NAFTA country end products or Israeli end products as defined in the clause of this solicitation entitled ``Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program":

NAFTA Country or Israeli End Products

Line Item No.:-----

Country of Origin:-----

(List as necessary)



(iii) The offeror shall list those supplies that are foreign end products (other than those listed in paragraph (g)(1)(ii) of this provision) as defined in the clause of this solicitation entitled ``Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program." The offeror shall list as other foreign end products those end products manufactured in the United States that do not qualify as domestic end products.

Other Foreign End Products

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(iv) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(2) Buy American Act--North American Free Trade Agreements--Israeli Trade Act--Balance of Payments Program Certificate, Alternate I (Feb 2000). If Alternate I to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products as defined in the clause of this solicitation entitled ``Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program":

Canadian End Products

Line Item No.:-----

(List as necessary)

(3) Buy American Act--North American Free Trade Agreements--Israeli Trade Act--Balance of Payments Program Certificate, Alternate II (Feb 2000). If Alternate II to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products or Israeli end products as defined in the clause of this solicitation entitled ``Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program":

Canadian or Israeli End Products

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(4) Trade Agreements Certificate. (Applies only if the clause at FAR 52.225-5, Trade Agreements, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(4)(ii) of this provision, is a U.S.-made, designated country, Caribbean Basin country, or NAFTA country end product, as defined in the clause of this solicitation entitled ``Trade Agreements."

(ii) The offeror shall list as other end products those end products that are not U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products.

Other End Products

Line Item No.:-----

Country of Origin:-----

(List as necessary)

(iii) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25. For line items subject to the Trade Agreements Act, the Government will evaluate offers of U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products without regard to the restrictions of the Buy American Act or the Balance of Payments Program. The Government will consider for award only offers of U.S.-made, designated country, Caribbean Basin country, or NAFTA country end products unless the Contracting Officer determines that there are no offers for such products or that the offers for such products are insufficient to fulfill the requirements of the solicitation.

(h) Certification Regarding Debarment, Suspension or Ineligibility for Award (Executive Order 12549). (Applies only if the contract value is expected to exceed the simplified acquisition threshold.) The offeror certifies, to the best of its knowledge and belief, that the offeror and/or any of its principals--

(1) ( ) Are, ( ) are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency; and

(2) ( ) Have, ( ) have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: Commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(3) ( ) Are, ( ) are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses.

(i) Certification Regarding Knowledge of Child Labor for Listed End Products (Executive Order 13126). [The Contracting Officer must list in paragraph (i)(1) any end products being acquired under this solicitation that are included in the List of Products Requiring Contractor Certification as to Forced or Indentured Child Labor, unless excluded at 22.1503(b).]

(1) Listed end products.

Listed End Product

-----  
-----

Listed Countries of Origin

-----  
-----

(2) Certification. (If the Contracting Officer has identified end products and countries of origin in paragraph (i)(1) of this provision, then the offeror must certify to either (i)(2)(i) or (i)(2)(ii) by checking the appropriate block.)

( ) (i) The offeror will not supply any end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product.

( ) (ii) The offeror may supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The offeror certifies that it has made a good faith effort to determine whether forced or indentured child labor was used to mine, produce, or manufacture any

such end product furnished under this contract. On the basis of those efforts, the offeror certifies that it is not aware of any such use of child labor.

(End of provision)

**52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS--COMMERCIAL ITEMS (DEC 2001)**

(a) The Contractor shall comply with the following FAR clauses, which are incorporated in this contract by reference, to implement provisions of law or executive orders applicable to acquisitions of commercial items:

(1) 52.222-3, Convict Labor (E.O. 11755).

(2) 52.233-3, Protest after Award (31 U.S.C. 3553).

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items or components:

(Contracting Officer shall check as appropriate.)

\_\_\_ (1) 52.203-6, Restrictions on Subcontractor Sales to the Government, with Alternate I (41 U.S.C. 253g and 10 U.S.C. 2402).

\_\_\_ (2) 52.219-3, Notice of HUBZone Small Business Set-Aside (Jan 1999).

\_\_\_ (3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 1999) (if the offeror elects to waive the preference, it shall so indicate in its offer).

\_\_\_ (4) (i) 52.219-5, Very Small Business Set-Aside (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994).

\_\_\_ (ii) Alternate I to 52.219-5.

\_\_\_ (iii) Alternate II to 52.219-5.

**XX (5) 52.219-8, Utilization of Small Business Concerns (15 U.S.C. 637 (d)(2) and (3)).**

\_\_\_ (6) 52.219-9, Small Business Subcontracting Plan (15 U.S.C. 637 (d)(4)).

\_\_\_ (7) 52.219-14, Limitations on Subcontracting (15 U.S.C. 637(a)(14)).

\_\_\_ (8)(i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Concerns (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).

\_\_\_ (ii) Alternate I of 52.219-23.

\_\_\_ (9) 52.219-25, Small Disadvantaged Business Participation Program--Disadvantaged Status and Reporting (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

\_\_\_ (10) 52.219-26, Small Disadvantaged Business Participation Program--Incentive Subcontracting (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).

**XX (11) 52.222-21, Prohibition of Segregated Facilities (Feb 1999).**

**XX (12) 52.222-26, Equal Opportunity (E.O. 11246).**

**XX (13) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (38 U.S.C. 4212).**

**XX (14) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C. 793).**

\_\_\_ (15) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (38 U.S.C. 4212).

**XX\_(16) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (E.O. 13126).**

\_\_\_ (17)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (42 U.S.C. 6962(c)(3)(A)(ii)).

\_\_\_ (ii) Alternate I of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).

**XX\_(18) 52.225-1, Buy American Act--Balance of Payments Program--Supplies (41 U.S.C. 10a-10d).**

\_\_\_(19)(i) 52.225-3, Buy American Act--North American Free Trade Agreement--Israeli Trade Act--Balance of Payments Program (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note).

\_\_\_(ii) Alternate I of 52.225-3.

\_\_\_(iii) Alternate II of 52.225-3.

\_\_\_(20) 52.225-5, Trade Agreements (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).

\_\_\_(21) 52.225-13, Restriction on Certain Foreign Purchases (E.O. 12722, 12724, 13059, 13067, 13121, and 13129).

\_\_\_(22) 52.225-15, Sanctioned European Union Country End Products (E.O. 12849).

\_\_\_(23) 52.225-16, Sanctioned European Union Country Services (E.O.12849).

**XX\_(24) 52.232-33, Payment by Electronic Funds Transfer--Central Contractor Registration (31 U.S.C. 3332).**

\_\_\_(25) 52.232-34, Payment by Electronic Funds Transfer--Other than Central Contractor Registration (31 U.S.C. 3332).

\_\_\_(26) 52.232-36, Payment by Third Party (31 U.S.C. 3332).

\_\_\_ (27) 52.239-1, Privacy or Security Safeguards (5 U.S.C. 552a).

\_\_\_ (28) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (46 U.S.C. 1241).

(c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, which the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or executive orders applicable to acquisitions of commercial items or components:

(Contracting Officer check as appropriate.)

\_\_\_\_ (1) 52.222-41, Service Contract Act of 1965, As amended (41 U.S.C. 351, et. seq.).

\_\_\_\_ (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (29 U.S.C. 206 and 41 U.S.C. 351, et. seq.).

\_\_\_\_ (3) 52.222-43, Fair Labor Standards Act and Service Contract Act -- Price Adjustment (Multiple Year and Option Contracts) (29 U.S.C.206 and 41 U.S.C. 351, et seq.).

\_\_\_\_ (4) 52.222-44, Fair Labor Standards Act and Service Contract Act - Price Adjustment (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).

\_\_\_\_ (5) 52.222-47, SCA Minimum Wages and Fringe Benefits Applicable to Successor Contract Pursuant to Predecessor Contractor Collective Bargaining Agreement (CBA) (41 U.S.C. 351, et seq.).

(d) Comptroller General Examination of Record. The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records--Negotiation.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c) or (d) of this clause, the Contractor is not required to include any FAR clause, other than those listed below (and as may be required by an addenda to this paragraph to establish the reasonableness of prices under Part 15), in a subcontract for commercial items or commercial components--

(1) 52.222-26, Equal Opportunity (E.O. 11246);

(2) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (38 U.S.C. 4212);

(3) 52.222-36, Affirmative Action for Workers with Disabilities (29 U.S.C. 793);

(4) 52.247-64, Preference for Privately-Owned U.S.- Flag Commercial Vessels (46 U.S.C. 1241)(flow down not required for subcontracts awarded beginning May 1, 1996)., and

(5) 52.222-41, Service Contract Act of 1965, As Amended (41 U.S.C. 351, et seq.).

(End of clause)

252.212-7001 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS (NOV 2001)

(a) The Contractor agrees to comply with the following Federal Acquisition Regulation (FAR) clause which, if checked, is included in this contract by reference to implement a provision of law applicable to acquisitions of commercial items or components.

\_\_\_\_ 52.203-3 Gratuities (APR 1984) (10 U.S.C. 2207).

(b) The Contractor agrees to comply with any clause that is checked on the following list of Defense FAR Supplement clauses which, if checked, is included in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items or components.

\_\_\_\_ 252.205-7000 Provision of Information to Cooperative Agreement Holders (DEC 1991) (10 U.S.C. 2416).

\_\_\_\_ 252.206-7000 Domestic Source Restriction (DEC 1991) (10 U.S.C. 2304)

\_\_\_\_ 252.219-7003 Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DoD Contracts) (APR 1996) (15 U.S.C. 637).

\_\_\_\_ 252.219-7004 Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (Test Program) (JUN 1997) (15 U.S.C. 637 note).

\_\_\_\_ 252.225-7001 Buy American Act and Balance of Payment Program (MAR 1998) (41 U.S.C. 10a-10d, E.O. 10582).

**XX\_ 252.225-7007 Buy American Act--Trade Agreements--Balance of Payments Program (SEP 2001) (41 U.S.C. 10a-10d, 19 U.S.C. 2501-2518, and 19 U.S.C. 3301 note).**

**XX\_ 252.225-7012 Preference for Certain Domestic Commodities (AUG 2000) (10 U.S.C. 10a-10d, E.O. 10582).**

**XX\_ 252.225-7014 Preference for Domestic Specialty Metals (MAR 1998) (10 U.S.C. 2241 note).**

**XX\_ 252.225-7015 Preference for Domestic Hand or Measuring Tools (DEC 1991) (10 U.S.C. 2241 note).**

\_\_\_\_ 252.225-7016 Restriction on Acquisition of Ball and Roller Bearings (DEC 2000) (\_\_\_\_Alternate I) (DEC 2000) (Section 8064 of Pub. L. 106-259).

**XX\_ 252.225-7021 Trade Agreements (SEP 2001) (19 U.S.C. 2501-2518 and 19 U.S.C. 3301 note).**

\_\_\_\_ 252.225-7027 Restriction on Contingent Fees for Foreign Military Sales (MAR 1998) (22 U.S.C. 2779).

\_\_\_\_ 252.225-7028 Exclusionary Policies and Practices of Foreign Governments (DEC 1991) (22 U.S.C. 2755).

\_\_\_\_ 252.225-7029 Preference for United States or Canadian Air Circuit Breakers (AUG 1998) (10 U.S.C. 2534(a)(3)).

\_\_\_\_ 252.225-7036 Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payment Program (MAR 1998) (\_\_\_\_Alternate I) (SEP 1999) (41 U.S.C. 10a-10d and 19 U.S.C. 3301 note).

\_\_\_\_ 252.227-7015 Technical Data--Commercial Items (NOV 1995) (10 U.S.C. 2320).

\_\_\_\_ 252.227-7037 Validation of Restrictive Markings on Technical Data (SEP 1999) (10 U.S.C. 2321).

**XX\_252.243-7002 Certification of Requests for Equitable Adjustment (MAR 1998) (10 U.S.C. 2410).**

**XX\_252.247-7023 Transportation of Supplies by Sea (MAR 2000) (\_\_\_\_Alternate I) (MAR 2000)**  
**(\_\_\_\_Alternate II) (MAR 2000) (10 U.S.C. 2631).**

**XX\_252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000) (10 U.S.C. 2631).**

(c) In addition to the clauses listed in paragraph (e) of the Contract Terms and Conditions Required to Implement Statutes or Executive Orders--Commercial Items clause of this contract (Federal Acquisition Regulation 52.212-5), the Contractor shall include the terms of the following clauses, if applicable, in subcontracts for commercial items or commercial components, awarded at any tier under this contract:

252.225-7014 Preference for Domestic Specialty Metals, Alternate I (10 U.S.C. 2241 note).

252.247-7023 Transportation of Supplies by Sea (10 U.S.C. 2631).252.247-7024 Notification of Transportation of Supplies by Sea (10 U.S.C. 2631).

252.247-7024 Notification of Transportation of Supplies by Sea (10 U.S.C. 2631)  
(End of clause)

5

4

3

2

1

SYMBOL	ZONE	DATE	BY	CHK
		10/20/2002		



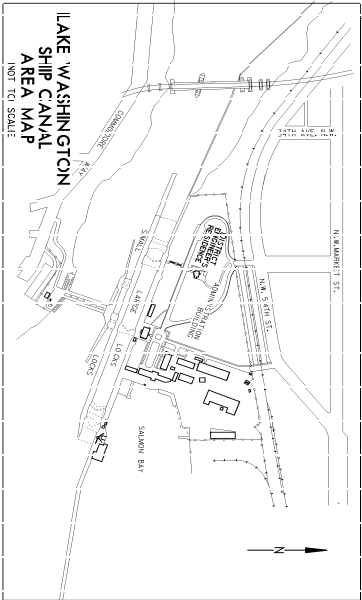
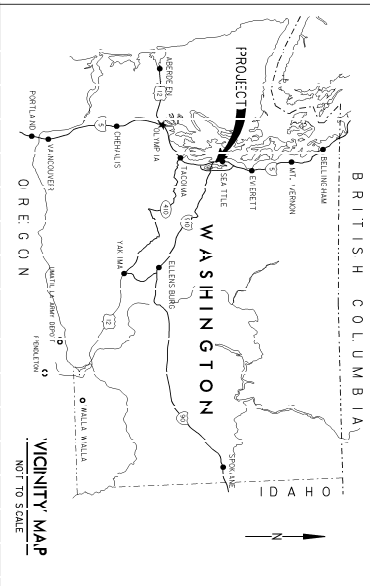
US Army Corps  
of Engineers  
Seattle District

# CONSTRUCT SMALL LOCK GUARD GATE APPURTENANCES

## HIRAM M. CHITTENDEN LOCKS LAKE WASHINGTON SHIP CANAL SEATTLE, WASHINGTON

DRAWING INDEX	
SHEET NO.	PLATE TITLE
1	GENERAL
2	LOCATION MAP
3	APPURTENANT PARTS SCHEDULE, STRUCTURAL NOTES AND ABBREVIATIONS
4	DATE, ANCHORAGE COMPONENTS PLANS, SECTIONS AND DETAIL
5	REACTION BEARING CASTINGS PLANS AND SECTIONS
6	REACTION BEARING CASTINGS PLANS AND SECTIONS
7	MITER POST REACTION CASTINGS AND MITER BEARING BARS PLANS AND SECTIONS
8	PINITE ASSEMBLY COMPONENTS PLANS AND SECTIONS

REFERENCE DRAWING INDEX			
REFERENCE DWG NO	ORIGINAL FILE NO	ORIGINAL SHEET NO	TITLE
R1	L.M.C. 46	36 of 57	LAKE WASHINGTON CANAL - GATES FOR 32 FT LOCKS
R2	L.M.C. 46	33 of 57	DETAILS OF ANCHORAGE OF PIVOTS & CASTINGS
R3	L.M.C. 47		DETAILS OF ANCHORAGE BEARING
R4	L.M.C. 55		DETAILS OF GUARD POST REACTION CASTING
R5	L.M.C. 55		DETAILS OF GUARD POST REACTION CASTING
R6	L.M.C. 92	31 of 57	LAKE WASHINGTON CANAL - 32' X 257' LOCK
R7	L.M.C. 94	29 of 57	UPPER OPERATING AND GUARD GATES
R8	E400		LOWER GUARD GATE
R9	E400	1 of 43	PEAK BRIDGE COMPANY - SHIP DRAWINGS
R10	E400	10 of 43	ERECTOR PLAN - GATES 1 & 2
R11	E400	11 of 43	CASTING AND FOUNDATION CASTINGS 1
R12	1728106	1 of 8	PIVOT SHAFT AND LIST OF MATERIALS 1.1
R13	1728106	2 of 8	E ELEVATIONS 1.1
R14	1728106	3 of 8	E ELEVATIONS 1.1
R15	1728106	4 of 8	E ELEVATIONS 1.1
R16	1728106	8 of 8	LIST OF MATERIALS 1.1
R17	1728106	1 of 9	PIVOT SHAFT AND LIST OF MATERIALS 1.1
R18	1728106	2 of 9	E ELEVATIONS 1.1
R19	1728106	3 of 9	E ELEVATIONS 1.1
R20	1728106	4 of 9	E ELEVATIONS 1.1
R21	1728106	9 of 9	LIST OF MATERIALS 1.1



SHEET 1 OF 8

DESIGN FILE: I:\projects\misc\str\h\w\wg3\wg3g00a.dgn  
DATE AND TIME PLOTTED: 10/20/2002 13:19



DESIGNED BY: JOHN A. WATKINS, P.E.	CHECKED BY: DEAN M. SCHWAB, P.E.	DATE: 02-20-2012	SCALE: C-2-4-100	PROJECT: LAKE WASHINGTON SHIP CANAL	LOCATION: SEATTLE, WASHINGTON
IF SHEET NUMBER IS LESS THAN 3000, 001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000					

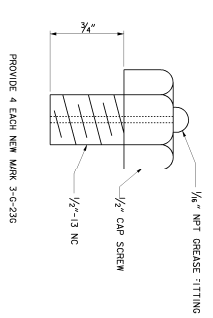


[illegible]

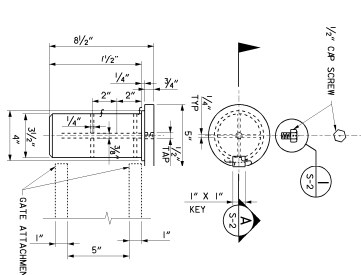


NO.	DATE	REVISIONS
1	10/1/00	REVISED

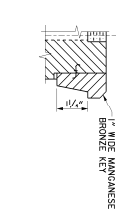
1	10/1/00	REVISED
2	10/1/00	REVISED
3	10/1/00	REVISED
4	10/1/00	REVISED
5	10/1/00	REVISED
6	10/1/00	REVISED
7	10/1/00	REVISED
8	10/1/00	REVISED
9	10/1/00	REVISED
10	10/1/00	REVISED
11	10/1/00	REVISED
12	10/1/00	REVISED
13	10/1/00	REVISED
14	10/1/00	REVISED
15	10/1/00	REVISED
16	10/1/00	REVISED
17	10/1/00	REVISED
18	10/1/00	REVISED
19	10/1/00	REVISED
20	10/1/00	REVISED
21	10/1/00	REVISED
22	10/1/00	REVISED
23	10/1/00	REVISED
24	10/1/00	REVISED
25	10/1/00	REVISED
26	10/1/00	REVISED
27	10/1/00	REVISED
28	10/1/00	REVISED
29	10/1/00	REVISED
30	10/1/00	REVISED
31	10/1/00	REVISED
32	10/1/00	REVISED
33	10/1/00	REVISED
34	10/1/00	REVISED
35	10/1/00	REVISED
36	10/1/00	REVISED
37	10/1/00	REVISED
38	10/1/00	REVISED
39	10/1/00	REVISED
40	10/1/00	REVISED
41	10/1/00	REVISED
42	10/1/00	REVISED
43	10/1/00	REVISED
44	10/1/00	REVISED
45	10/1/00	REVISED
46	10/1/00	REVISED
47	10/1/00	REVISED
48	10/1/00	REVISED
49	10/1/00	REVISED
50	10/1/00	REVISED
51	10/1/00	REVISED
52	10/1/00	REVISED
53	10/1/00	REVISED
54	10/1/00	REVISED
55	10/1/00	REVISED
56	10/1/00	REVISED
57	10/1/00	REVISED
58	10/1/00	REVISED
59	10/1/00	REVISED
60	10/1/00	REVISED
61	10/1/00	REVISED
62	10/1/00	REVISED
63	10/1/00	REVISED
64	10/1/00	REVISED
65	10/1/00	REVISED
66	10/1/00	REVISED
67	10/1/00	REVISED
68	10/1/00	REVISED
69	10/1/00	REVISED
70	10/1/00	REVISED
71	10/1/00	REVISED
72	10/1/00	REVISED
73	10/1/00	REVISED
74	10/1/00	REVISED
75	10/1/00	REVISED
76	10/1/00	REVISED
77	10/1/00	REVISED
78	10/1/00	REVISED
79	10/1/00	REVISED
80	10/1/00	REVISED
81	10/1/00	REVISED
82	10/1/00	REVISED
83	10/1/00	REVISED
84	10/1/00	REVISED
85	10/1/00	REVISED
86	10/1/00	REVISED
87	10/1/00	REVISED
88	10/1/00	REVISED
89	10/1/00	REVISED
90	10/1/00	REVISED
91	10/1/00	REVISED
92	10/1/00	REVISED
93	10/1/00	REVISED
94	10/1/00	REVISED
95	10/1/00	REVISED
96	10/1/00	REVISED
97	10/1/00	REVISED
98	10/1/00	REVISED
99	10/1/00	REVISED
100	10/1/00	REVISED



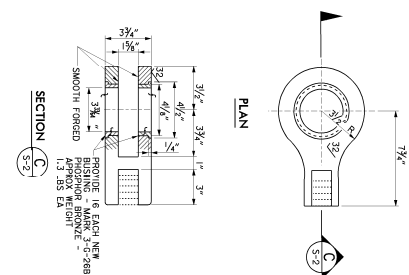
PROVIDE 4 EACH NEW MARK 3-C-230  
CAP SCREW DETAIL  
SCALE 2" = 1'-0"



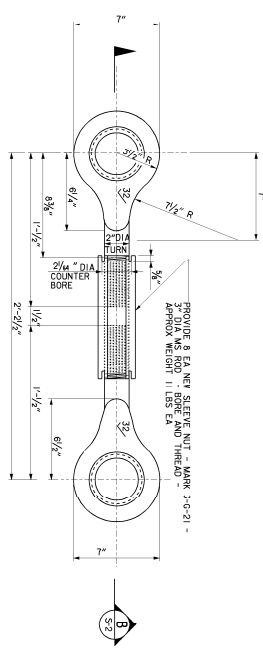
PROVIDE 4 EACH NEW PIN - MARK 3-C-23  
STEEL FORGING - APPROX WEIGHT 25 LBS EA  
GUDGEON PIN  
SCALE 3" = 1'-0"



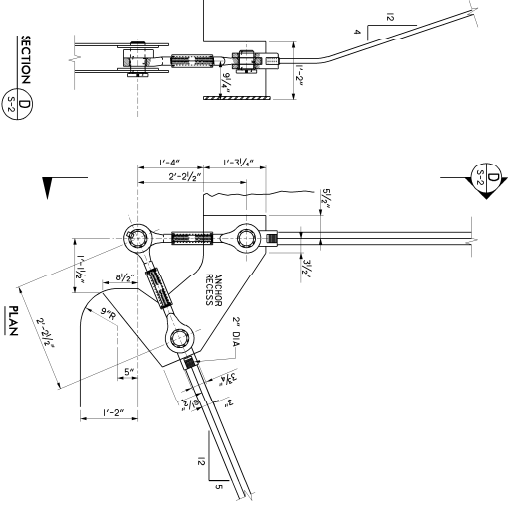
PROVIDE 4 EACH NEW KEY - MARK 3-C-24  
MANGANESE BRONZE - APPROX WEIGHT 0.5 LBS EA  
PARTIAL SECTION  
SCALE 6" = 1'-0"



PROVIDE 8 EACH NEW CLEVIS - MARK 3-C-26 -  
STEEL FORGING - APPROX WEIGHT 30 LBS EA  
CLEVIS DETAIL  
SCALE 3" = 1'-0"



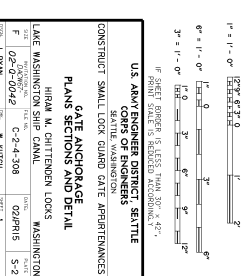
PROVIDE 8 EACH NEW SLEEVE NUT - MARK 3-C-21 -  
3" DIA MS ROD - APPROX WEIGHT 1 LBS EA  
ANCHORAGE EYEBAR  
SCALE 3" = 1'-0"



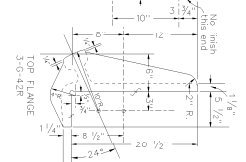
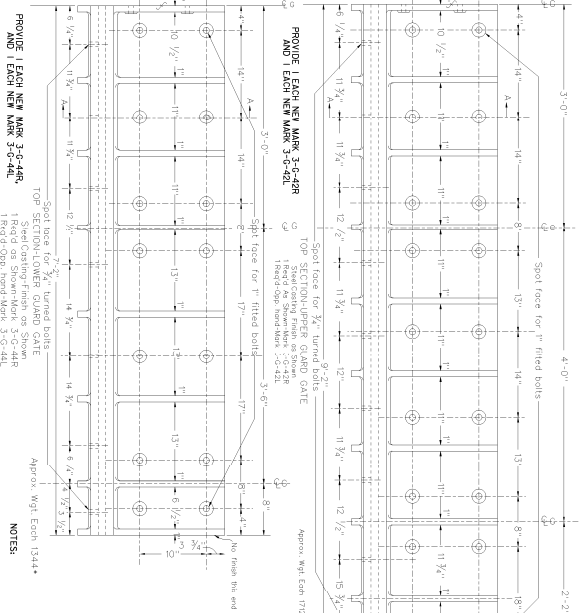
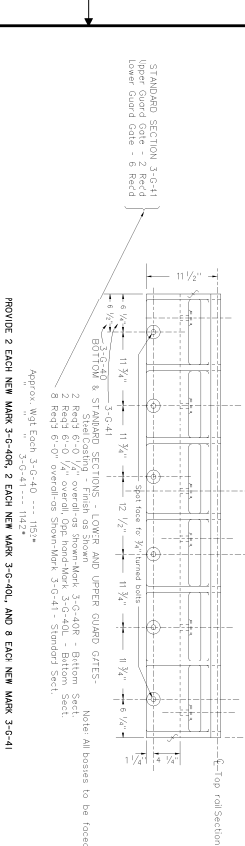
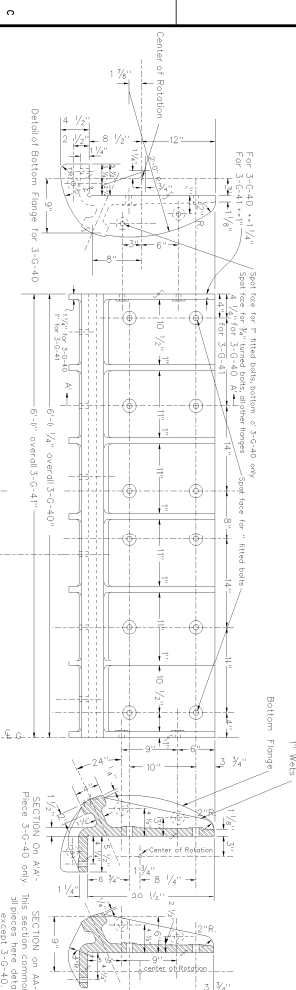
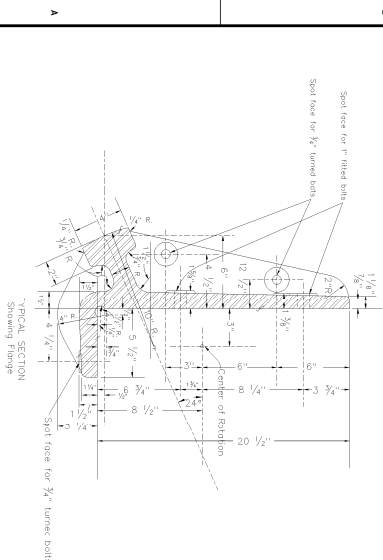
GENERAL ARRANGEMENT OF ANCHORAGE  
SCALE 1" = 1'-0"

ANCHORAGE EYEBAR  
SCALE 3" = 1'-0"

- NOTES:
1. SEE DRAWING 3-1 FOR PART DESCRIPTIONS, QUANTITIES, MATERIAL NOTES AND WEIGHTS.
  2. SEE REFERENCE DRAWING RI FOR ASSEMBLY DETAILS NOT SHOWN.



US ARMY ENGINEER DISTRICT BELTLE  
CONSTRUCT SMALL LOCK GUARD GATE APPEARANCES  
GATE ANCHORAGE  
PLANS SECTIONS AND DETAIL  
HIGH M. CHITTENDEN LOCKS  
LAKE WASHINGTON SHIP CANAL  
WASHINGTON  
DATE 10/1/00  
BY M. KIRCH  
CHECKED BY M. KIRCH  
SCALE 1" = 1'-0"



1. DURING REACTION, STEEL CASTINGS SHALL CONFORM TO ALL REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, STANDARD A-23.3, CLASS "F" FOR ALL REPAIRS. PLAS SPRAYED SURFACES SHALL BE IDENTIFIED BY A WHITE MARKING, SUCH AS "REPAIR" OR "REWORK".
2. ALL HOT WORK, LOCATIONS SHALL BE PROTECTED, SPRAYED TO THE DIMENSIONS SHOWN, AND HOLES SHALL BE DRILLED UNDER THIS CONTRACT. FILL WITH MILD STEEL ALL HOLES.
3. HATCH MARKING, RASSED LETTERS, IN BURNISHED SURFACES SHALL BE IDENTIFIED BY A WHITE MARKING, SUCH AS "REPAIR" OR "REWORK".
4. AFTER REPAIR AND FINAL APPROVAL, SUBMIT ALL SHEETPILES WITH THE EXCEPTION OF MACHINED SURFACES, TO CONFORM WITH THE REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, STANDARD A-23.3, CLASS "F" FOR ALL REPAIRS. PLAS SPRAYED SURFACES SHALL BE IDENTIFIED BY A WHITE MARKING, SUCH AS "REPAIR" OR "REWORK".
5. DURING REACTION, STEEL CASTINGS SHALL CONFORM TO ALL REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, STANDARD A-23.3, CLASS "F" FOR ALL REPAIRS. PLAS SPRAYED SURFACES SHALL BE IDENTIFIED BY A WHITE MARKING, SUCH AS "REPAIR" OR "REWORK".
6. AFTER REPAIR AND FINAL APPROVAL, SUBMIT ALL SHEETPILES WITH THE EXCEPTION OF MACHINED SURFACES, TO CONFORM WITH THE REQUIREMENTS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, STANDARD A-23.3, CLASS "F" FOR ALL REPAIRS. PLAS SPRAYED SURFACES SHALL BE IDENTIFIED BY A WHITE MARKING, SUCH AS "REPAIR" OR "REWORK".

IF SHEET BORDER IS LESS THAN 30" X 42",  
PRINT SCALE IS REDUCED ACCORDINGLY

**U.S. ARMY ENGINEER DISTRICT, SEATTLE**  
**CORPS OF ENGINEERS**  
SEATTLE, WASHINGTON

## QUOIN POST REACTION CASTING

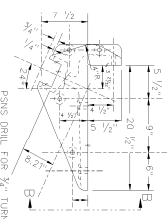
**PLANS AND SECTIONS**  
**HIRAM M. CHITTENDEN LOCKS**

WASHINGTON SHIP CANAL	WAS
INVITATION NO. DACW67- 2-0-0042	DATE 02APR11
FILE NO. C-2-4-308	

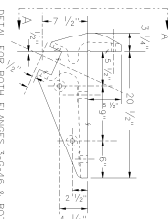
RYAN	CO.	W. KUTCH	DEPT	5
------	-----	----------	------	---

1/2 size 4:3

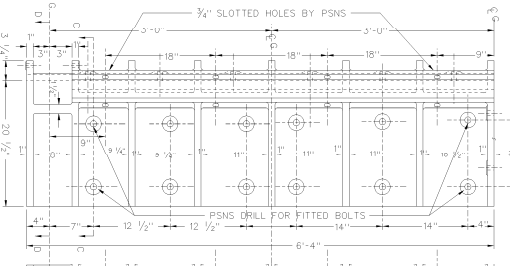




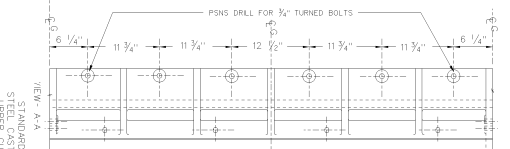
PSNS DRILL FOR 3/4" TURNED 80



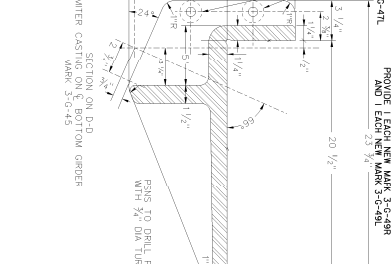
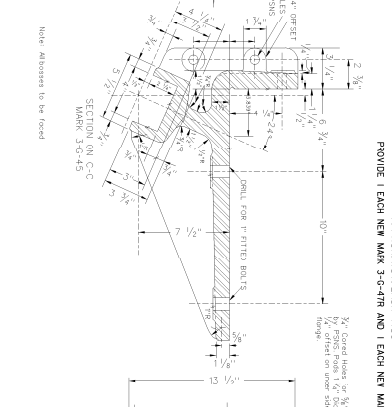
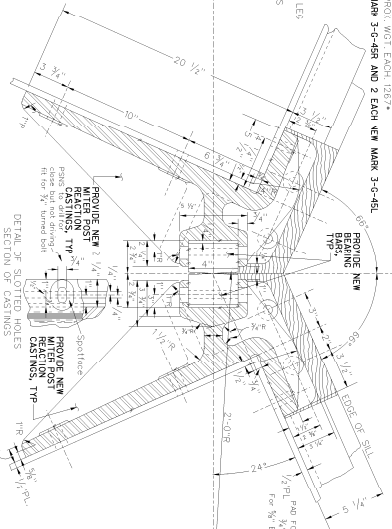
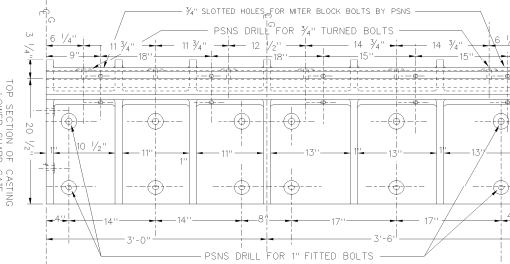
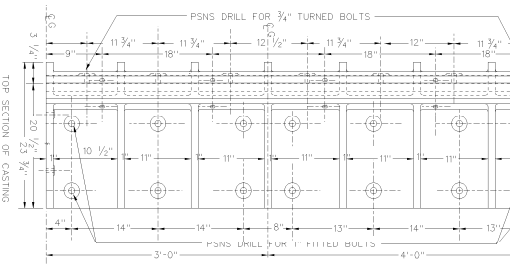
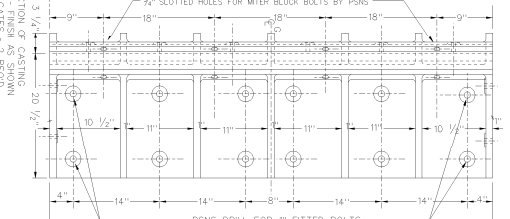
FLANGES OF 2-G-47 AND 3-G-49



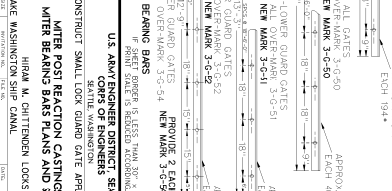
VIEW - B -



TING - FIN  
MAD - CATR



5



WASHINGTON

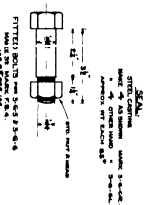
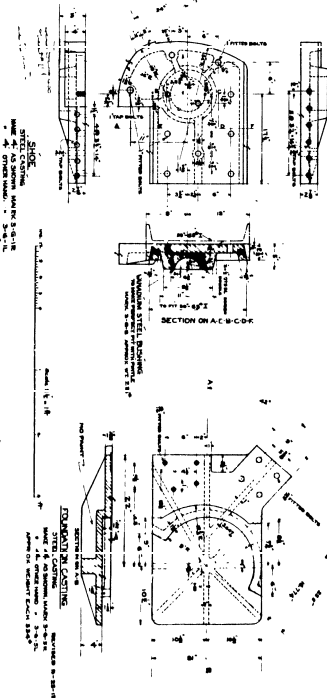
- [illegible]

REVISIONS			
SYMBOL	ZONE	DESCRIPTION	DATE









REFERENCE FILE NO. 2

DRAWN BY: CASH-AM  
 CHECKED BY: RAY-PT  
 DATE: 11-1-78

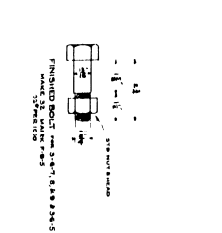
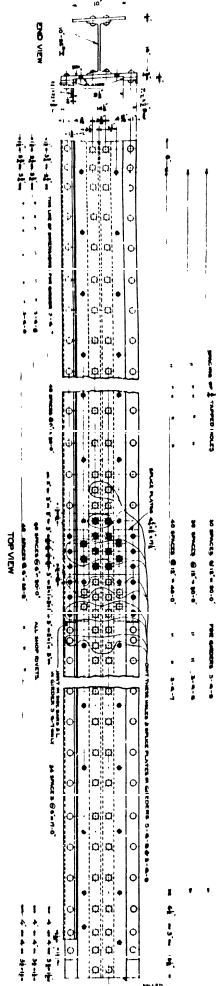
DWG. NO. LWC.46 TAKED FROM  
 11-1-78

SCALE: 1/8" = 1'-0"

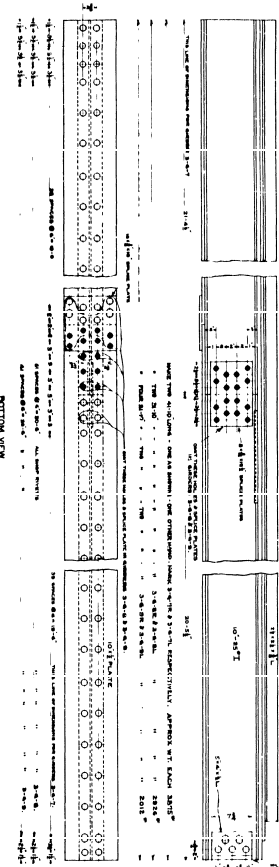
CAPTAIN ARCHITECT & ENGINEERS, P.C.  
 11-1-78

11-1-78

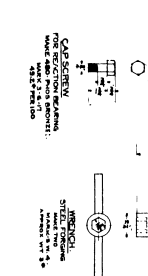
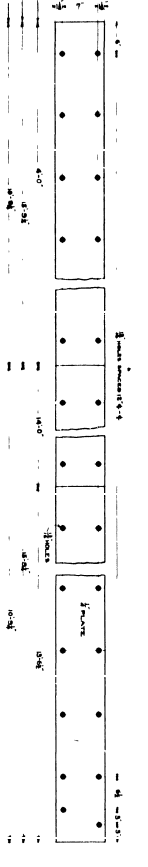
**LAKE WASHINGTON CANAL**  
*• Fifty Seven Inches*  
**GATES 3' OR 30" LOCK**  
*• Fourteen Gates of 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99, 102, 105, 108, 111, 114, 117, 120, 123, 126, 129, 132, 135, 138, 141, 144, 147, 150, 153, 156, 159, 162, 165, 168, 171, 174, 177, 180, 183, 186, 189, 192, 195, 198, 201, 204, 207, 210, 213, 216, 219, 222, 225, 228, 231, 234, 237, 240, 243, 246, 249, 252, 255, 258, 261, 264, 267, 270, 273, 276, 279, 282, 285, 288, 291, 294, 297, 300, 303, 306, 309, 312, 315, 318, 321, 324, 327, 330, 333, 336, 339, 342, 345, 348, 351, 354, 357, 360, 363, 366, 369, 372, 375, 378, 381, 384, 387, 390, 393, 396, 399, 402, 405, 408, 411, 414, 417, 420, 423, 426, 429, 432, 435, 438, 441, 444, 447, 450, 453, 456, 459, 462, 465, 468, 471, 474, 477, 480, 483, 486, 489, 492, 495, 498, 501, 504, 507, 510, 513, 516, 519, 522, 525, 528, 531, 534, 537, 540, 543, 546, 549, 552, 555, 558, 561, 564, 567, 570, 573, 576, 579, 582, 585, 588, 591, 594, 597, 600, 603, 606, 609, 612, 615, 618, 621, 624, 627, 630, 633, 636, 639, 642, 645, 648, 651, 654, 657, 660, 663, 666, 669, 672, 675, 678, 681, 684, 687, 690, 693, 696, 699, 702, 705, 708, 711, 714, 717, 720, 723, 726, 729, 732, 735, 738, 741, 744, 747, 750, 753, 756, 759, 762, 765, 768, 771, 774, 777, 780, 783, 786, 789, 792, 795, 798, 801, 804, 807, 810, 813, 816, 819, 822, 825, 828, 831, 834, 837, 840, 843, 846, 849, 852, 855, 858, 861, 864, 867, 870, 873, 876, 879, 882, 885, 888, 891, 894, 897, 900, 903, 906, 909, 912, 915, 918, 921, 924, 927, 930, 933, 936, 939, 942, 945, 948, 951, 954, 957, 960, 963, 966, 969, 972, 975, 978, 981, 984, 987, 990, 993, 996, 999, 1002, 1005, 1008, 1011, 1014, 1017, 1020, 1023, 1026, 1029, 1032, 1035, 1038, 1041, 1044, 1047, 1050, 1053, 1056, 1059, 1062, 1065, 1068, 1071, 1074, 1077, 1080, 1083, 1086, 1089, 1092, 1095, 1098, 1101, 1104, 1107, 1110, 1113, 1116, 1119, 1122, 1125, 1128, 1131, 1134, 1137, 1140, 1143, 1146, 1149, 1152, 1155, 1158, 1161, 1164, 1167, 1170, 1173, 1176, 1179, 1182, 1185, 1188, 1191, 1194, 1197, 1200, 1203, 1206, 1209, 1212, 1215, 1218, 1221, 1224, 1227, 1230, 1233, 1236, 1239, 1242, 1245, 1248, 1251, 1254, 1257, 1260, 1263, 1266, 1269, 1272, 1275, 1278, 1281, 1284, 1287, 1290, 1293, 1296, 1299, 1302, 1305, 1308, 1311, 1314, 1317, 1320, 1323, 1326, 1329, 1332, 1335, 1338, 1341, 1344, 1347, 1350, 1353, 1356, 1359, 1362, 1365, 1368, 1371, 1374, 1377, 1380, 1383, 1386, 1389, 1392, 1395, 1398, 1401, 1404, 1407, 1410, 1413, 1416, 1419, 1422, 1425, 1428, 1431, 1434, 1437, 1440, 1443, 1446, 1449, 1452, 1455, 1458, 1461, 1464, 1467, 1470, 1473, 1476, 1479, 1482, 1485, 1488, 1491, 1494, 1497, 1500, 1503, 1506, 1509, 1512, 1515, 1518, 1521, 1524, 1527, 1530, 1533, 1536, 1539, 1542, 1545, 1548, 1551, 1554, 1557, 1560, 1563, 1566, 1569, 1572, 1575, 1578, 1581, 1584, 1587, 1590, 1593, 1596, 1599, 1602, 1605, 1608, 1611, 1614, 1617, 1620, 1623, 1626, 1629, 1632, 1635, 1638, 1641, 1644, 1647, 1650, 1653, 1656, 1659, 1662, 1665, 1668, 1671, 1674, 1677, 1680, 1683, 1686, 1689, 1692, 1695, 1698, 1701, 1704, 1707, 1710, 1713, 1716, 1719, 1722, 1725, 1728, 1731, 1734, 1737, 1740, 1743, 1746, 1749, 1752, 1755, 1758, 1761, 1764, 1767, 1770, 1773, 1776, 1779, 1782, 1785, 1788, 1791, 1794, 1797, 1800, 1803, 1806, 1809, 1812, 1815, 1818, 1821, 1824, 1827, 1830, 1833, 1836, 1839, 1842, 1845, 1848, 1851, 1854, 1857, 1860, 1863, 1866, 1869, 1872, 1875, 1878, 1881, 1884, 1887, 1890, 1893, 1896, 1899, 1902, 1905, 1908, 1911, 1914, 1917, 1920, 1923, 1926, 1929, 1932, 1935, 1938, 1941, 1944, 1947, 1950, 1953, 1956, 1959, 1962, 1965, 1968, 1971, 1974, 1977, 1980, 1983, 1986, 1989, 1992, 1995, 1998, 2001, 2004, 2007, 2010, 2013, 2016, 2019, 2022, 2025, 2028, 2031, 2034, 2037, 2040, 2043, 2046, 2049, 2052, 2055, 2058, 2061, 2064, 2067, 2070, 2073, 2076, 2079, 2082, 2085, 2088, 2091, 2094, 2097, 2100, 2103, 2106, 2109, 2112, 2115, 2118, 2121, 2124, 2127, 2130, 2133, 2136, 2139, 2142, 2145, 2148, 2151, 2154, 2157, 2160, 2163, 2166, 2169, 2172, 2175, 2178, 2181, 2184, 2187, 2190, 2193, 2196, 2199, 2202, 2205, 2208, 221*



NOTE: The gate shall be constructed of steel plate, 1/2" thick, and shall be painted with a heavy coat of red lead paint. The gate shall be designed to operate in the open position, and shall be capable of being closed by hand or by power.

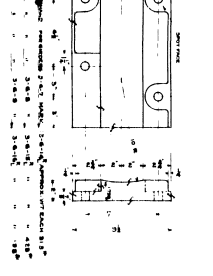
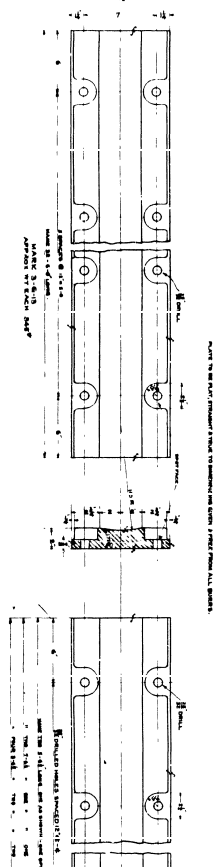


DETAIL OF REACTION GEARING



MADE FROM 40-45 LBS. IN STEEL. THE GEARING IS TO BE MADE OF STEEL. THE GEARING IS TO BE MADE OF STEEL. THE GEARING IS TO BE MADE OF STEEL.

FLYER PLATE



REACTION BEARINGS

STEEL GEARING

REFERENCE FILE NO. 3

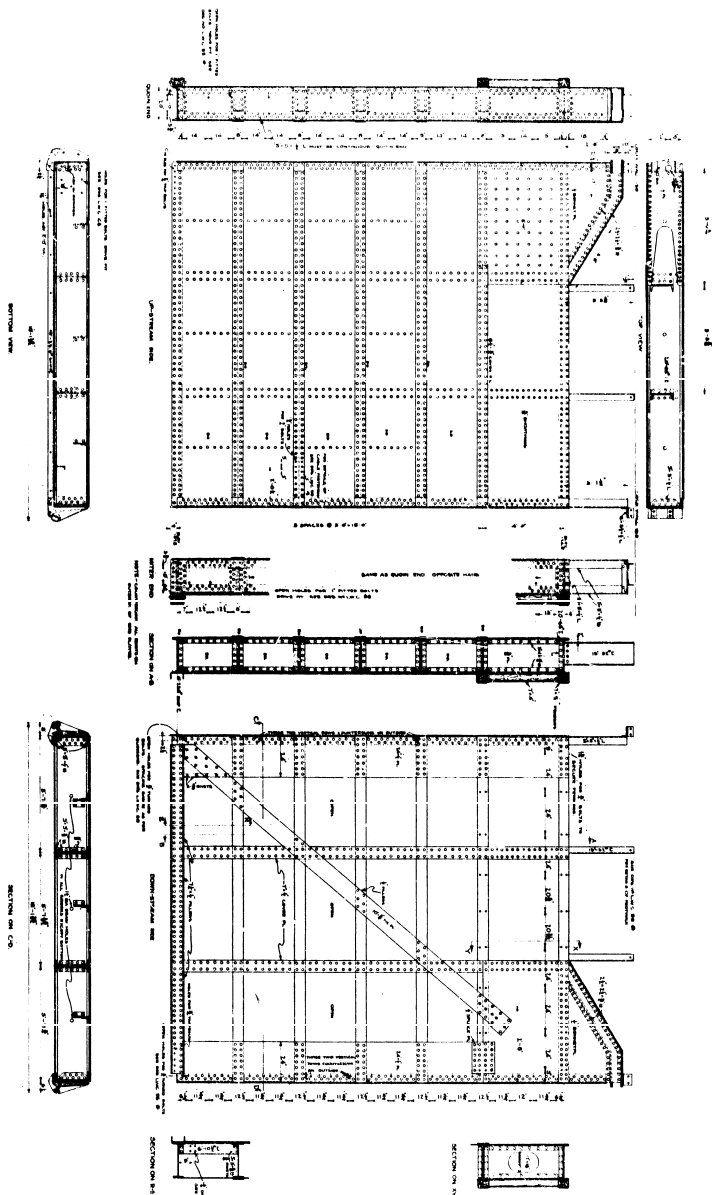
LAKE WASHINGTON CANAL  
GATES AND LOCK  
DETAILS OF REACTION BEARING  
MAJOR J.B. CANNON, CORPS OF ENGINEERS, U.S.A.  
DESIGNED BY J.B. CANNON, CORPS OF ENGINEERS, U.S.A.  
DRAWN BY J.B. CANNON, CORPS OF ENGINEERS, U.S.A.  
CHECKED BY J.B. CANNON, CORPS OF ENGINEERS, U.S.A.  
APPROVED BY J.B. CANNON, CORPS OF ENGINEERS, U.S.A.



Mayer, Corps of Engineers US Army

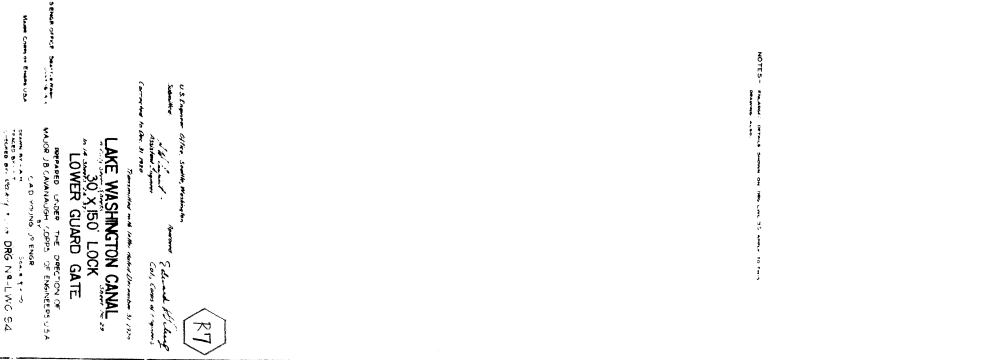
DWG-№-LWC-95





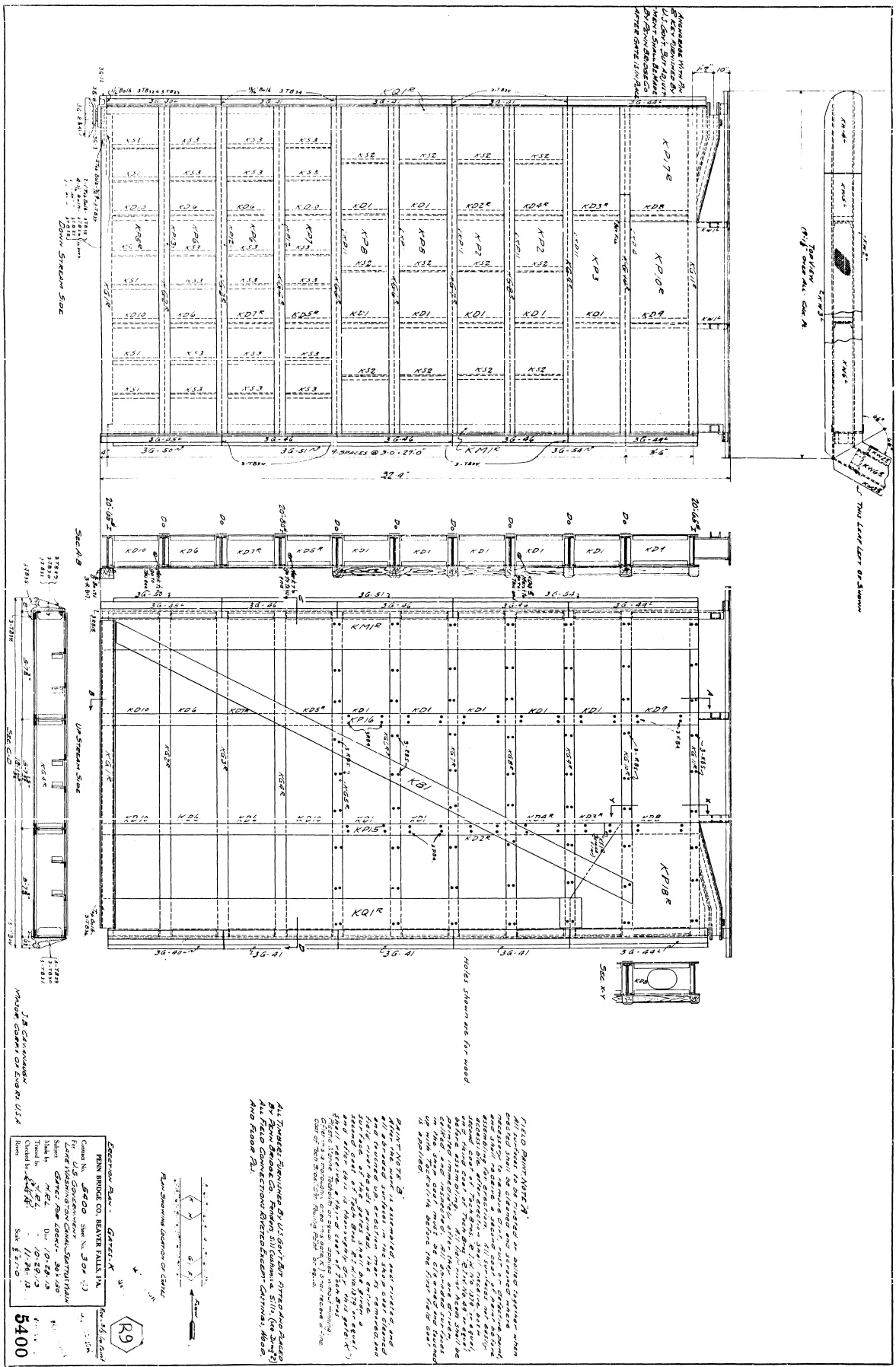
U.S. ENGINEERING OFFICE, WASHINGTON, D.C.  
 Approved: *[Signature]*  
 Checked by: *[Signature]*  
 Drawn by: *[Signature]*  
 Date: *[Date]*  
 Project: *[Project Name]*  
 Title: *[Title]*  
 Scale: *[Scale]*  
 Notes: *[Notes]*

REFERENCE FILE NO. 6



REFERENCE FILE NO. 7





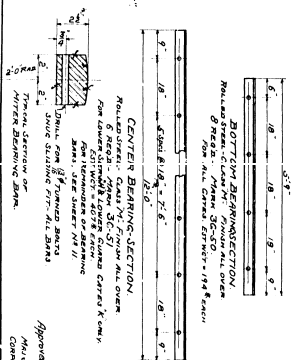
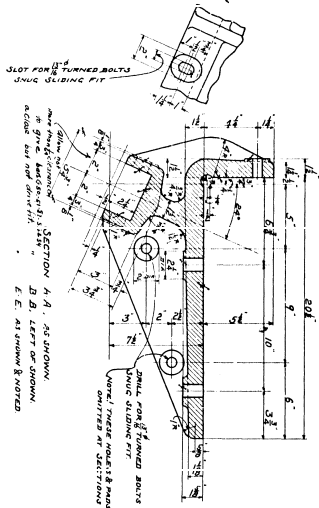
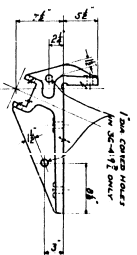
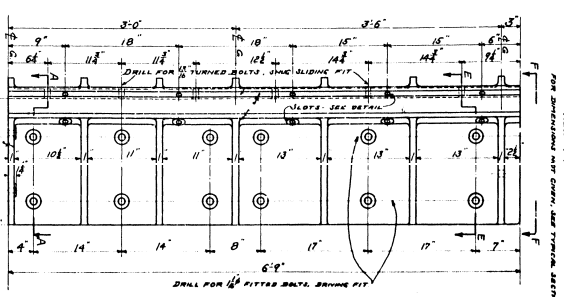
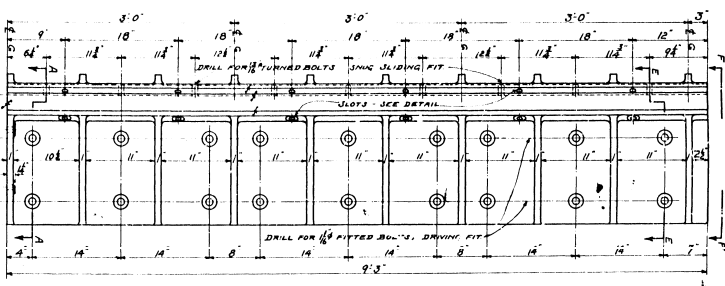
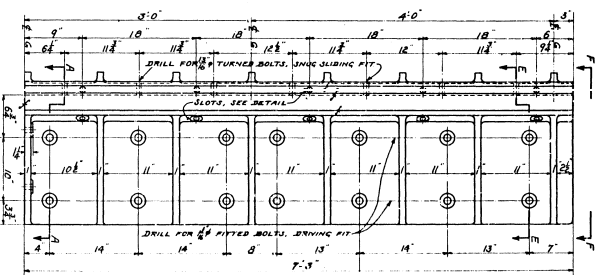
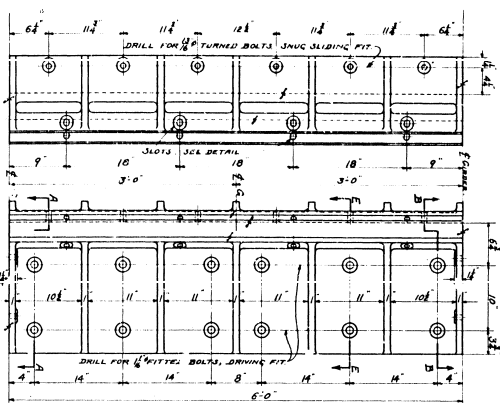
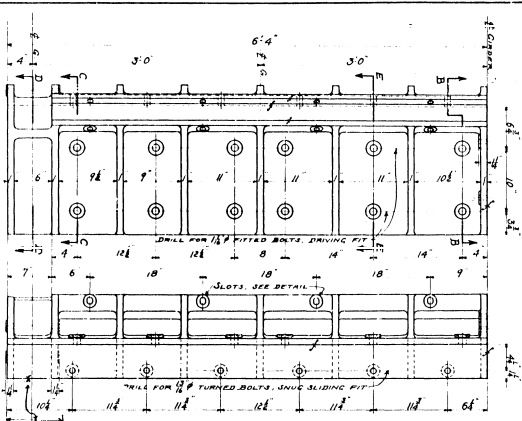
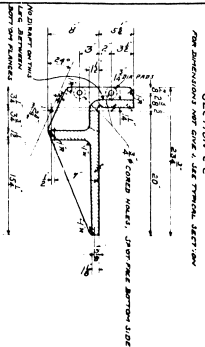
REFERENCE FILE NO. 9

**SECTION A-A**  
 1. 1/2" = 1'-0"  
 2. 1/4" = 1'-0"  
 3. 1/8" = 1'-0"  
 4. 1/16" = 1'-0"  
 5. 1/32" = 1'-0"  
 6. 1/64" = 1'-0"  
 7. 1/128" = 1'-0"  
 8. 1/256" = 1'-0"  
 9. 1/512" = 1'-0"  
 10. 1/1024" = 1'-0"  
 11. 1/2048" = 1'-0"  
 12. 1/4096" = 1'-0"  
 13. 1/8192" = 1'-0"  
 14. 1/16384" = 1'-0"  
 15. 1/32768" = 1'-0"  
 16. 1/65536" = 1'-0"  
 17. 1/131072" = 1'-0"  
 18. 1/262144" = 1'-0"  
 19. 1/524288" = 1'-0"  
 20. 1/1048576" = 1'-0"  
 21. 1/2097152" = 1'-0"  
 22. 1/4194304" = 1'-0"  
 23. 1/8388608" = 1'-0"  
 24. 1/16777216" = 1'-0"  
 25. 1/33554432" = 1'-0"  
 26. 1/67108864" = 1'-0"  
 27. 1/134217728" = 1'-0"  
 28. 1/268435456" = 1'-0"  
 29. 1/536870912" = 1'-0"  
 30. 1/1073741824" = 1'-0"  
 31. 1/2147483648" = 1'-0"  
 32. 1/4294967296" = 1'-0"  
 33. 1/8589934592" = 1'-0"  
 34. 1/17179869184" = 1'-0"  
 35. 1/34359738368" = 1'-0"  
 36. 1/68719476736" = 1'-0"  
 37. 1/137438953472" = 1'-0"  
 38. 1/274877906944" = 1'-0"  
 39. 1/549755813888" = 1'-0"  
 40. 1/1099511627776" = 1'-0"  
 41. 1/2199023255552" = 1'-0"  
 42. 1/4398046511104" = 1'-0"  
 43. 1/8796093022208" = 1'-0"  
 44. 1/17592186044416" = 1'-0"  
 45. 1/35184372088832" = 1'-0"  
 46. 1/70368744177664" = 1'-0"  
 47. 1/140737488355328" = 1'-0"  
 48. 1/281474976710656" = 1'-0"  
 49. 1/562949953421312" = 1'-0"  
 50. 1/1125899906842624" = 1'-0"  
 51. 1/2251799813685248" = 1'-0"  
 52. 1/4503599627370496" = 1'-0"  
 53. 1/9007199254740992" = 1'-0"  
 54. 1/18014398509481984" = 1'-0"  
 55. 1/36028797018963968" = 1'-0"  
 56. 1/72057594037927936" = 1'-0"  
 57. 1/144115188075855872" = 1'-0"  
 58. 1/288230376151711744" = 1'-0"  
 59. 1/576460752303423488" = 1'-0"  
 60. 1/1152921504606846976" = 1'-0"  
 61. 1/2305843009213693952" = 1'-0"  
 62. 1/4611686018427387904" = 1'-0"  
 63. 1/9223372036854775808" = 1'-0"  
 64. 1/18446744073709551616" = 1'-0"  
 65. 1/36893488147419103232" = 1'-0"  
 66. 1/73786976294838206464" = 1'-0"  
 67. 1/147573952589676412928" = 1'-0"  
 68. 1/295147905179352825856" = 1'-0"  
 69. 1/590295810358705651712" = 1'-0"  
 70. 1/1180591620717411303424" = 1'-0"  
 71. 1/2361183241434822606848" = 1'-0"  
 72. 1/4722366482869645213696" = 1'-0"  
 73. 1/9444732965739290427392" = 1'-0"  
 74. 1/18889465931478580854784" = 1'-0"  
 75. 1/37778931862957161709568" = 1'-0"  
 76. 1/75557863725914323419136" = 1'-0"  
 77. 1/151115727451828646838272" = 1'-0"  
 78. 1/302231454903657293676544" = 1'-0"  
 79. 1/604462909807314587353088" = 1'-0"  
 80. 1/1208925819614629174706176" = 1'-0"  
 81. 1/2417851639229258349412352" = 1'-0"  
 82. 1/4835703278458516698824704" = 1'-0"  
 83. 1/9671406556917033397649408" = 1'-0"  
 84. 1/19342813113834066795298816" = 1'-0"  
 85. 1/38685626227668133590597632" = 1'-0"  
 86. 1/77371252455336267181195264" = 1'-0"  
 87. 1/154742504910672534362390528" = 1'-0"  
 88. 1/309485009821345068724781056" = 1'-0"  
 89. 1/618970019642690137449562112" = 1'-0"  
 90. 1/1237940039285380274899124224" = 1'-0"  
 91. 1/2475880078570760549798248448" = 1'-0"  
 92. 1/4951760157141521099596496896" = 1'-0"  
 93. 1/9903520314283042199192993792" = 1'-0"  
 94. 1/19807040628566084398385987584" = 1'-0"  
 95. 1/39614081257132168796771975168" = 1'-0"  
 96. 1/79228162514264337593543950336" = 1'-0"  
 97. 1/158456325028528675187087900672" = 1'-0"  
 98. 1/316912650057057350374175801344" = 1'-0"  
 99. 1/633825300114114700748351602688" = 1'-0"  
 100. 1/1267650600228229401496703205376" = 1'-0"

**SECTION B-B**  
 1. 1/2" = 1'-0"  
 2. 1/4" = 1'-0"  
 3. 1/8" = 1'-0"  
 4. 1/16" = 1'-0"  
 5. 1/32" = 1'-0"  
 6. 1/64" = 1'-0"  
 7. 1/128" = 1'-0"  
 8. 1/256" = 1'-0"  
 9. 1/512" = 1'-0"  
 10. 1/1024" = 1'-0"  
 11. 1/2048" = 1'-0"  
 12. 1/4096" = 1'-0"  
 13. 1/8192" = 1'-0"  
 14. 1/16384" = 1'-0"  
 15. 1/32768" = 1'-0"  
 16. 1/65536" = 1'-0"  
 17. 1/131072" = 1'-0"  
 18. 1/262144" = 1'-0"  
 19. 1/524288" = 1'-0"  
 20. 1/1048576" = 1'-0"  
 21. 1/2097152" = 1'-0"  
 22. 1/4194304" = 1'-0"  
 23. 1/8388608" = 1'-0"  
 24. 1/16777216" = 1'-0"  
 25. 1/33554432" = 1'-0"  
 26. 1/67108864" = 1'-0"  
 27. 1/134217728" = 1'-0"  
 28. 1/268435456" = 1'-0"  
 29. 1/536870912" = 1'-0"  
 30. 1/1073741824" = 1'-0"  
 31. 1/2147483648" = 1'-0"  
 32. 1/4294967296" = 1'-0"  
 33. 1/8589934592" = 1'-0"  
 34. 1/17179869184" = 1'-0"  
 35. 1/34359738368" = 1'-0"  
 36. 1/68719476736" = 1'-0"  
 37. 1/137438953472" = 1'-0"  
 38. 1/274877906944" = 1'-0"  
 39. 1/549755813888" = 1'-0"  
 40. 1/1099511627776" = 1'-0"  
 41. 1/2199023255552" = 1'-0"  
 42. 1/4398046511104" = 1'-0"  
 43. 1/8796093022208" = 1'-0"  
 44. 1/17592186044416" = 1'-0"  
 45. 1/35184372088832" = 1'-0"  
 46. 1/70368744177664" = 1'-0"  
 47. 1/140737488355328" = 1'-0"  
 48. 1/281474976710656" = 1'-0"  
 49. 1/562949953421312" = 1'-0"  
 50. 1/1125899906842624" = 1'-0"  
 51. 1/2251799813685248" = 1'-0"  
 52. 1/4503599627370496" = 1'-0"  
 53. 1/9007199254740992" = 1'-0"  
 54. 1/18014398509481984" = 1'-0"  
 55. 1/36028797018963968" = 1'-0"  
 56. 1/72057594037927936" = 1'-0"  
 57. 1/144115188075855872" = 1'-0"  
 58. 1/288230376151711744" = 1'-0"  
 59. 1/576460752303423488" = 1'-0"  
 60. 1/1152921504606846976" = 1'-0"  
 61. 1/2305843009213693952" = 1'-0"  
 62. 1/4611686018427387904" = 1'-0"  
 63. 1/9223372036854775808" = 1'-0"  
 64. 1/18446744073709551616" = 1'-0"  
 65. 1/36893488147419103232" = 1'-0"  
 66. 1/73786976294838206464" = 1'-0"  
 67. 1/147573952589676412928" = 1'-0"  
 68. 1/295147905179352825856" = 1'-0"  
 69. 1/590295810358705651712" = 1'-0"  
 70. 1/1180591620717411303424" = 1'-0"  
 71. 1/2361183241434822606848" = 1'-0"  
 72. 1/4722366482869645213696" = 1'-0"  
 73. 1/9444732965739290427392" = 1'-0"  
 74. 1/18889465931478580854784" = 1'-0"  
 75. 1/37778931862957161709568" = 1'-0"  
 76. 1/75557863725914323419136" = 1'-0"  
 77. 1/151115727451828646838272" = 1'-0"  
 78. 1/302231454903657293676544" = 1'-0"  
 79. 1/604462909807314587353088" = 1'-0"  
 80. 1/1208925819614629174706176" = 1'-0"  
 81. 1/2417851639229258349412352" = 1'-0"  
 82. 1/4835703278458516698824704" = 1'-0"  
 83. 1/9671406556917033397649408" = 1'-0"  
 84. 1/19342813113834066795298816" = 1'-0"  
 85. 1/38685626227668133590597632" = 1'-0"  
 86. 1/77371252455336267181195264" = 1'-0"  
 87. 1/154742504910672534362390528" = 1'-0"  
 88. 1/309485009821345068724781056" = 1'-0"  
 89. 1/618970019642690137449562112" = 1'-0"  
 90. 1/1237940039285380274899124224" = 1'-0"  
 91. 1/2475880078570760549798248448" = 1'-0"  
 92. 1/4951760157141521099596496896" = 1'-0"  
 93. 1/9903520314283042199192993792" = 1'-0"  
 94. 1/19807040628566084398385987584" = 1'-0"  
 95. 1/39614081257132168796771975168" = 1'-0"  
 96. 1/79228162514264337593543950336" = 1'-0"  
 97. 1/158456325028528675187087900672" = 1'-0"  
 98. 1/316912650057057350374175801344" = 1'-0"  
 99. 1/633825300114114700748351602688" = 1'-0"  
 100. 1/1267650600228229401496703205376" = 1'-0"

**SECTION C-C**  
 1. 1/2" = 1'-0"  
 2. 1/4" = 1'-0"  
 3. 1/8" = 1'-0"  
 4. 1/16" = 1'-0"  
 5. 1/32" = 1'-0"  
 6. 1/64" = 1'-0"  
 7. 1/128" = 1'-0"  
 8. 1/256" = 1'-0"  
 9. 1/512" = 1'-0"  
 10. 1/1024" = 1'-0"  
 11. 1/2048" = 1'-0"  
 12. 1/4096" = 1'-0"  
 13. 1/8192" = 1'-0"  
 14. 1/16384" = 1'-0"  
 15. 1/32768" = 1'-0"  
 16. 1/65536" = 1'-0"  
 17. 1/131072" = 1'-0"  
 18. 1/262144" = 1'-0"  
 19. 1/524288" = 1'-0"  
 20. 1/1048576" = 1'-0"  
 21. 1/2097152" = 1'-0"  
 22. 1/4194304" = 1'-0"  
 23. 1/8388608" = 1'-0"  
 24. 1/16777216" = 1'-0"  
 25. 1/33554432" = 1'-0"  
 26. 1/67108864" = 1'-0"  
 27. 1/134217728" = 1'-0"  
 28. 1/268435456" = 1'-0"  
 29. 1/536870912" = 1'-0"  
 30. 1/1073741824" = 1'-0"  
 31. 1/2147483648" = 1'-0"  
 32. 1/4294967296" = 1'-0"  
 33. 1/8589934592" = 1'-0"  
 34. 1/17179869184" = 1'-0"  
 35. 1/34359738368" = 1'-0"  
 36. 1/68719476736" = 1'-0"  
 37. 1/137438953472" = 1'-0"  
 38. 1/274877906944" = 1'-0"  
 39. 1/549755813888" = 1'-0"  
 40. 1/1099511627776" = 1'-0"  
 41. 1/2199023255552" = 1'-0"  
 42. 1/4398046511104" = 1'-0"  
 43. 1/8796093022208" = 1'-0"  
 44. 1/17592186044416" = 1'-0"  
 45. 1/35184372088832" = 1'-0"  
 46. 1/70368744177664" = 1'-0"  
 47. 1/140737488355328" = 1'-0"  
 48. 1/281474976710656" = 1'-0"  
 49. 1/562949953421312" = 1'-0"  
 50. 1/1125899906842624" = 1'-0"  
 51. 1/2251799813685248" = 1'-0"  
 52. 1/4503599627370496" = 1'-0"  
 53. 1/9007199254740992" = 1'-0"  
 54. 1/18014398509481984" = 1'-0"  
 55. 1/36028797018963968" = 1'-0"  
 56. 1/72057594037927936" = 1'-0"  
 57. 1/144115188075855872" = 1'-0"  
 58. 1/28823





MITER STANDARD SECTION

18 MOD - MINN SC 46

DOWN UPPER SURFACE GATE C&C	MOD B
" " "	"
" LOWER GUARD	" A, D
" " "	" E, F
" LOWER	" H, G

EST WGT = 1908 LBS/KN

18  
46  
5-  
11

METER TOP SECTION  
2 REED. - AS SHOWN - MARK 3G-47R  
2 " - LEFT OR SHOWN - 3G-47L  
FOR UPPER STRUT, 8 UPPER GUARD CAGES, 1  
EST WGT - 1430 LBS EACH.

MITER TOP SECTION.  
1 REED - AS SHOWN - MARK 3G-4FR  
1 - - LEFT OR SHOWN - - 3G-4BL  
FOR LOWER SERVICE CATE. H  
EST WGT = 1816# EACH

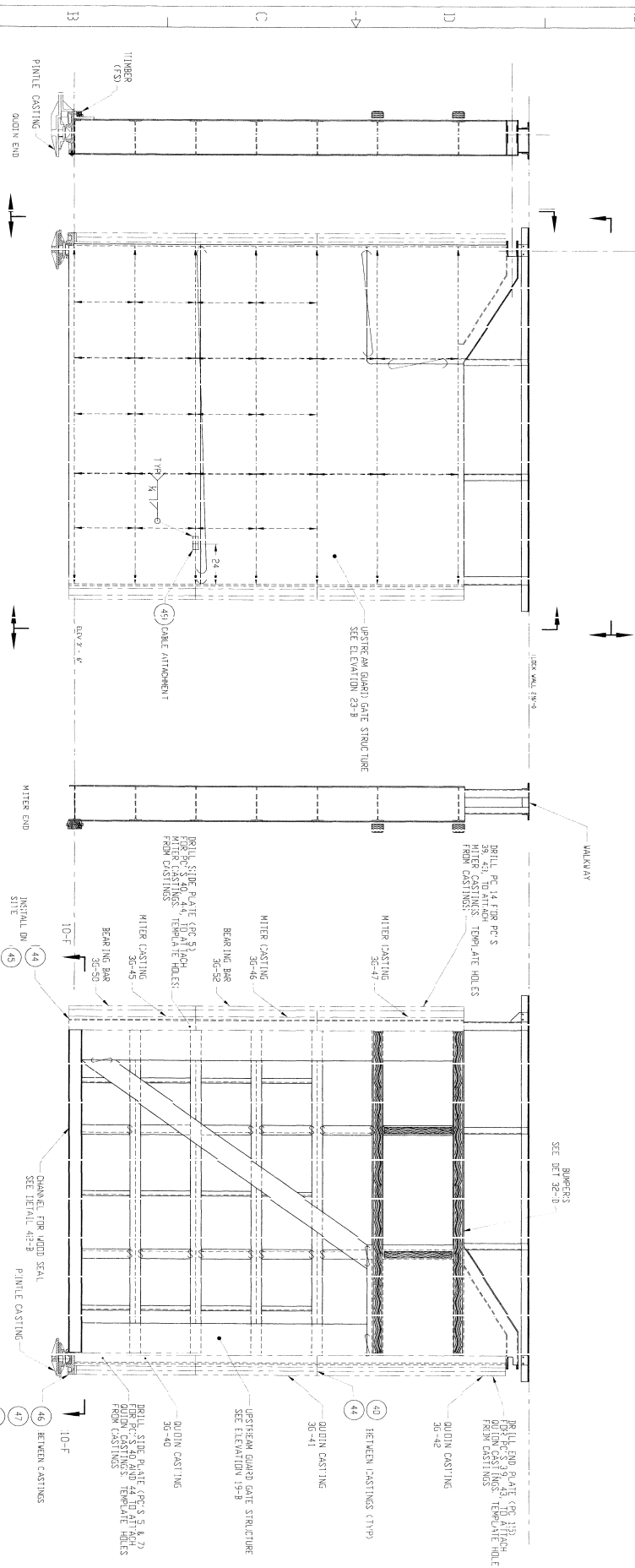
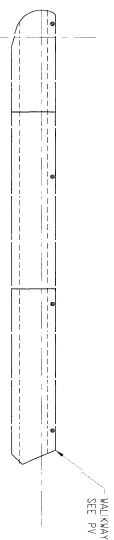
MITER TOP SECTION

[illegible]

REFERENCE FILE NO. 10







ELEVATION VIEW 14-B  
UPSTREAM GARD GATE - SOUTH LEAF  
UPSTREAM SIDE  
NORTH LEAF SIMILAR OPPOSITE HAND  
SCALE 1/2"=1'-0"

(A) ELEVATION VIEW 10-B.  
UPSTREAM GUARD GATE - SOUTH LEAF  
DOWNSTREAM SIDE  
NORTH LEAF SIMILAR OPPOSITE HAND  
SCALE: 1/2"=1'-0"

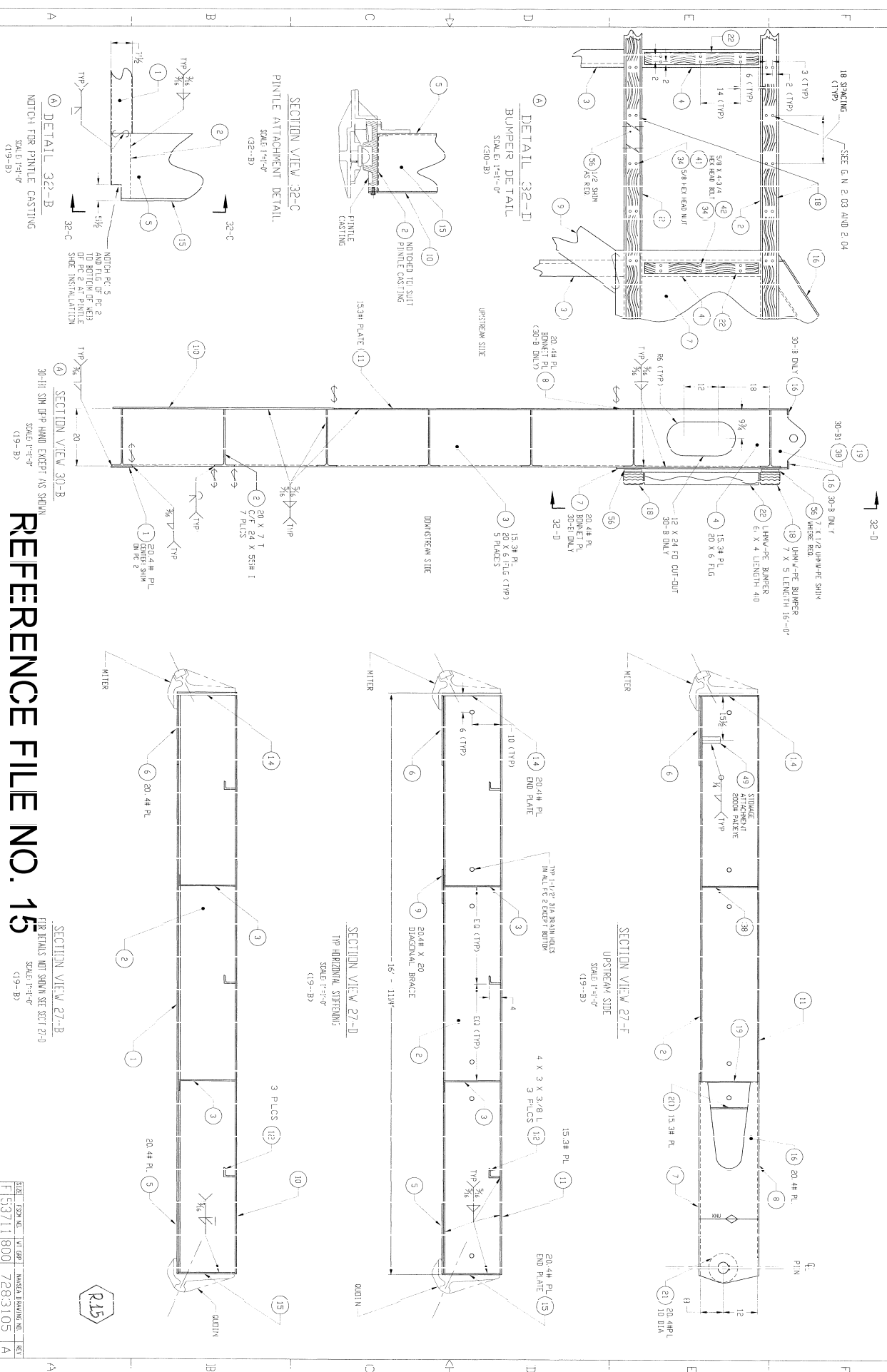
REFERENCE FILE NO. 13

SIZE	FSD M NL	WT	GRP	MANSEA	BRAVING NET	REV
F	53711	800	7283105	A		
SCALE AS SHOWN	BISCI				SHEET	2



REFERENCE FILE NO. 15

SIZE	2500	NO.	1	DATE	1/25/91	DESIGNED BY	W. J. B. / J. B. B.
FILE NO.	53711	800	7283105	SCALE	1"=1'-0"	CHECKED BY	A
PROJECT	13551						



R15

LIST OF MATERIAL (QUANTITY FOR TWO GATES)									
ES&S ITEM NO.	QTY	DESCRIPTION	UNIT	PCS	MATERIAL SPEC	MATERIAL REQD	NSN	QTY	REMARKS
41	44	BOLT, HEX HEAD 5/8-11UNC-2A X 6 LG	REQD	40	MIL-S-1222 TYPE-1, GR-304	CRCS	14F	55-D	
42	24	BOLT, HEX HEAD 5/8-11UNC-2A X 5 LG	REQD	20	MIL-S-1222 TYPE-1, GR-304	CRCS	14F	55-D	
43	160	NUT, HEX HEAD 5/8-11UNC-2B	REQD	160	MS 13888	NICU	14F	13.18 28.8	
44	139	NUT, 10UNC-28	REQD	139	MS 17868	NICU	14F	13.12 16.7	
45	4	BOLT, HEX HEAD 3/4-10UNC-2A X 9-1/2 LG	REQD	4	MIL-S-1222 TYPE-1, GR-400	NICU	14F		
46	2	BOLT, HEX HEAD 3/4-10UNC-2A X 7 LG	REQD	2	MIL-S-1222 TYPE-1, GR-400	NICU	14F		
47	4	BOLT, HEX HEAD 3/4-10UNC-2A X 5-1/2	REQD	4	MIL-S-1222 TYPE-1, GR-400	NICU	14F	13.62 2.5	
48	20	WASHER, TIGHTENED	REQD	20	ASTM A307	COMMERCIAL	14F		SHIP STOWAGE
49	6	2000 # PLATE	REQD	6	ASTM-A-36	COMMERCIAL	14F		SHIP STOWAGE
50	40	1/2-13UNC-28 LG-1-1/2	REQD	40	MIL-S-1719/2	COMMERCIAL	14F		SHIP STOWAGE
51	40	LOCK WASHER, TIGHTENED	REQD	40		COMMERCIAL	14F		SHIP STOWAGE
52	40	NUT, SELF-LOCKING 1/2-13UNC-28	REQD	40	ASTM F594	COMMERCIAL	14F		SHIP STOWAGE
53		PAINT, PRIMER							
54		PAINT, INTERMEDIATE COAT							
55		PAINT, TOP COAT							
56	4	UPWA SHM 7 X 1/2 X 9	REQD	4	PLASTIC		32-D		SHIP STOWAGE

REFERENCE FILE NO. 16



LOCKE  
F53711800 7283105/A  
SCALE 7/16 SHOWN  
SHEET 13

800-1583102  
A 2  
C08

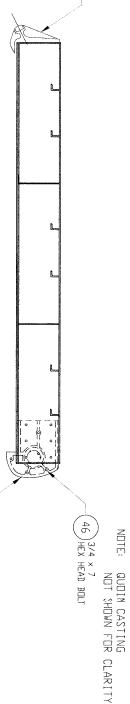
UPSTREAM GUARD GATES

UPSTREAM GUARD GATES

800-1583102  
A 2  
C08







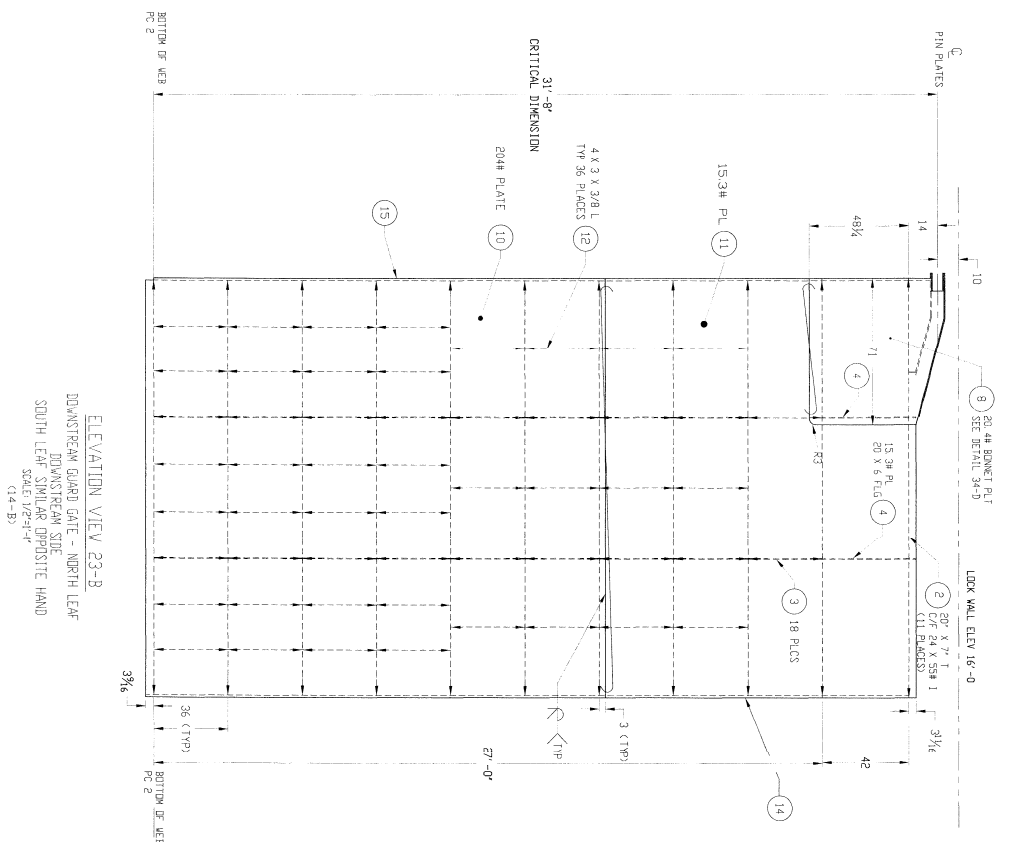
SECTION 10-F  
LOOKING DOWN  
SCALE 1/2"=1'-0"

ELEVATION VIEW 14-3  
DOWNSTREAM GUARD GATE - NORTH LEAF  
DOWNSTREAM GUARD GATE - SOUTH LEAF  
SCALE 1/2"=1'-0"

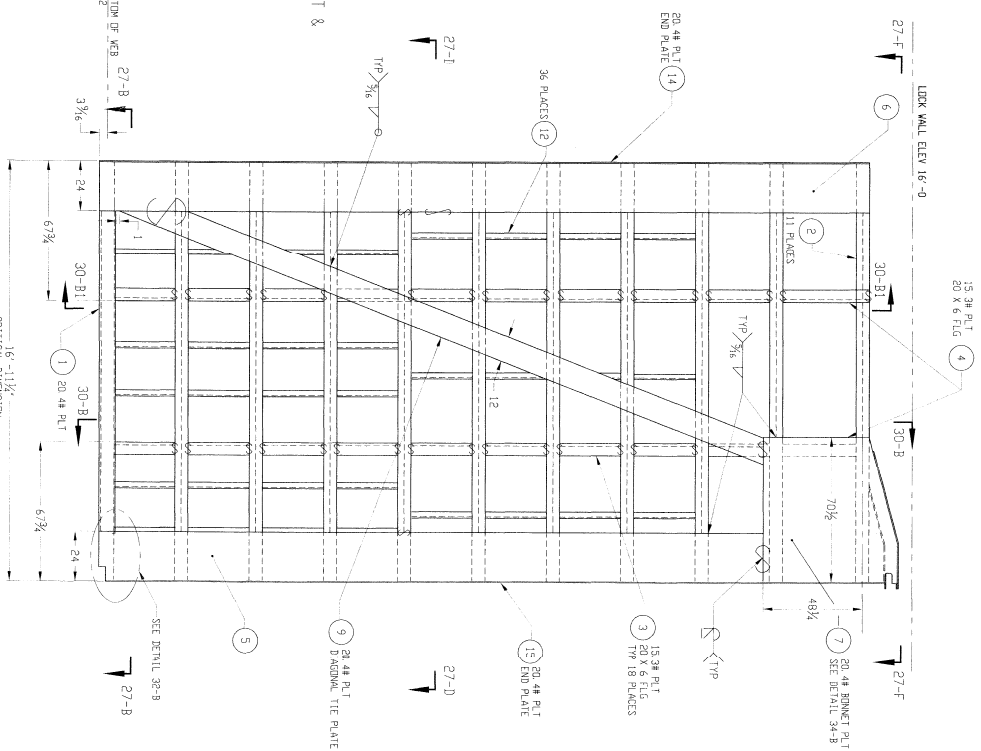
ELEVATION VIEW 10-B  
DOWNSTREAM GUARD GATE - NORTH LEAF  
DOWNSTREAM GUARD GATE - SOUTH LEAF  
SCALE 1/2"=1'-0"

SIZE	FROM NO.	WT. (LB)	VARIES DRAWING NO.	REV.
F153711	800	7283106	1	1
SCALE AS SHOWN	SWKS	SHEET	2	

REFERENCE FILE NO. 18

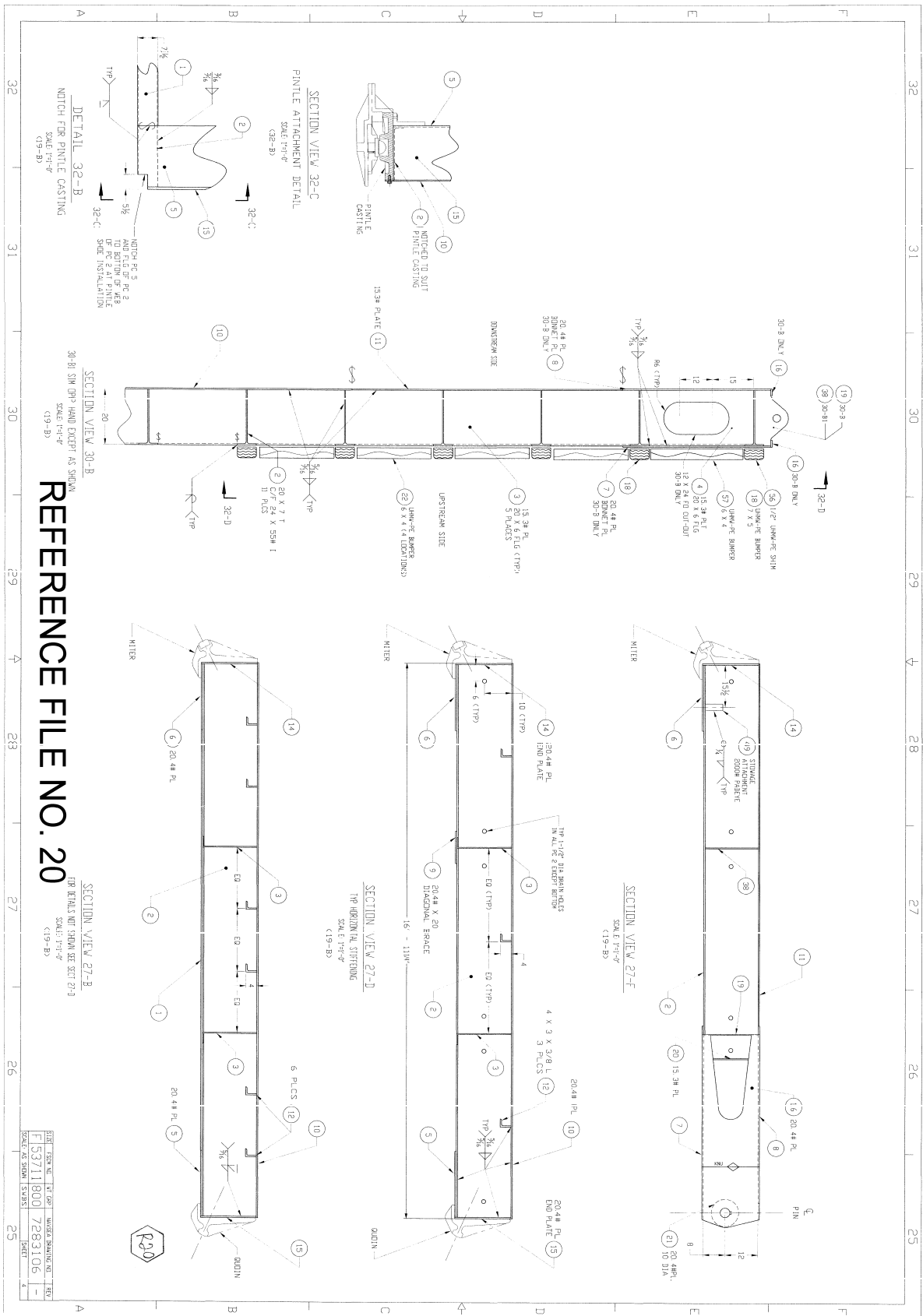


NOTE:  
NEW QUION POST, MITRE POST &  
RUBBER BUMPERS  
NOT SHOWN FOR CLARITY



REFERENCE FILE NO. 19

SIZE	FSCM ID.	WT GRP	NAVSEA DRAWING NL.	REV.
F	53711	800	7283106	-
SCALE	AS SHOWN	SWBS	SHEET	3



REFERENCE FILE NO. 20

FILE	53711800	7283106
DATE	10/01/01	10/01/01
BY	10/01/01	10/01/01
CHECK	10/01/01	10/01/01

72

71

70

69

68

67

66

65

# REFERENCE FILE NO. 21

LOCK # 537118007283106  
STATION 2000  
STATION 2000

201

LIST OF MATERIAL QUANTITY FOR TWO GATES									
EXISTS ITEM NO.	QTY	DESCRIPTION	UNIT	QTY	UNIT	QTY	UNIT	QTY	REMARKS
41	132	BLT. 1/2" X 1/2" X 1/2"	132	132	132	132	132	132	
42	88	BLT. 1/2" X 1/2" X 1/2"	88	88	88	88	88	88	
43	24	BLT. 1/2" X 1/2" X 1/2"	24	24	24	24	24	24	
44	132	BLT. 1/2" X 1/2" X 1/2"	132	132	132	132	132	132	
45	4	BLT. 1/2" X 1/2" X 1/2"	4	4	4	4	4	4	
46	2	BLT. 1/2" X 1/2" X 1/2"	2	2	2	2	2	2	
47	4	BLT. 1/2" X 1/2" X 1/2"	4	4	4	4	4	4	
48	40	ZINC ANODE	40	40	40	40	40	40	
49	4	2000 H. PAINT	4	4	4	4	4	4	
50	116	STUD	116	116	116	116	116	116	
51	116	LOCK WASHER, TOP/HEB	116	116	116	116	116	116	
52	116	NUT, SELF-LOCKING	116	116	116	116	116	116	
53		PAINT, INTERIOR GATE							
54		PAINT, TOP COAT							
55		PAINT, PRIMER							
56	142	1/2" X 1/2" X 1/2"	142	142	142	142	142	142	
57	4	BLT. 1/2" X 1/2" X 1/2"	4	4	4	4	4	4	
58	32	BLT. 1/2" X 1/2" X 1/2"	32	32	32	32	32	32	
59	3	BLT. 1/2" X 1/2" X 1/2"	3	3	3	3	3	3	
60	9	BLT. 1/2" X 1/2" X 1/2"	9	9	9	9	9	9	
61	2	BLT. 1/2" X 1/2" X 1/2"	2	2	2	2	2	2	
62	2	BLT. 1/2" X 1/2" X 1/2"	2	2	2	2	2	2	
63	4	BLT. 1/2" X 1/2" X 1/2"	4	4	4	4	4	4	
64	7	BLT. 1/2" X 1/2" X 1/2"	7	7	7	7	7	7	
65	4	BLT. 1/2" X 1/2" X 1/2"	4	4	4	4	4	4	
66	1	BLT. 1/2" X 1/2" X 1/2"	1	1	1	1	1	1	
67	1	BLT. 1/2" X 1/2" X 1/2"	1	1	1	1	1	1	
68	24	BLT. 1/2" X 1/2" X 1/2"	24	24	24	24	24	24	
69	34	BLT. 1/2" X 1/2" X 1/2"	34	34	34	34	34	34	
70	2	BLT. 1/2" X 1/2" X 1/2"	2	2	2	2	2	2	
71	2	BLT. 1/2" X 1/2" X 1/2"	2	2	2	2	2	2	
72	2	BLT. 1/2" X 1/2" X 1/2"	2	2	2	2	2	2	

72

71

70

69

68

67

66

65